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ABSTRACT

A wide variety of concerns are discussed in the proceedings of the Council of Graduate Schools annual meeting. Graduate education in the biomedical sciences is discussed by Robert C. Baldridge, Daniel T. Watts, Ralph A. Bradshaw and Herbert V. Pahl. The session on placement of persons with graduate degrees over the next decade is handled by Charles T. Lester, Eneas D. Kane, N.B. Hammay, and Robert M. Lumiansky. S. D. Shirley Spragg, Sanford C. Jameson, Richard Armitage and General Leonard F. Chapman, Jr. discuss foreign graduate students in the United States. Workshops on the various disciplines are reported by James O. Miller, professional education; Guy Stern, humanities; and Jerome Sutin, biomedical research training. David S. Sparks, Arthur Reynolds, Sam C. Webb, Winifred O. Stone, and Mack H. Jones deal with admissions criteria; while E. Philip Bollier and Giles T. Brown handle aspects of the master's degree. Concerns for master's programs 1976-1980 are dealt with in workshops by Dale R. Comstock, William Chance, James Ballowe, David G. Barry, Edward Joseph Shoben, Jr., I. Wesley Elliot, Oscar A. Rogers, Jr., Bernard Spolsky, and Albert H. Yee. The role of state agencies in the review of graduate programs is dealt with in sessions by McAllister H. Hull, Jr., T. Edward Hollander, and Donald K. Smith. (JMF)

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Proceedings of the Fifteenth Annual Meeting

COUNCIL OF GRADUATE SCHOOLS IN THE UNITED STATES

ATLANTA, GEORGIA
DECEMBER 1-3, 1975
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Premeeting Activities

Monday, December 1, 1975, 9:00 a.m.-12:00 noon

CONCERNS OF DEANS OF BLACK GRADUATE SCHOOLS

Chairman: Henry E. Cobb, *Southern University*
James H. Reeves, *Tennessee State University*
Oscar A. Rogers, Jr., *Jackson State University*

The paper entitled "Black Graduate Schools as Effective Delivery Systems" presented by Henry Cobb was based on a paper developed under his direction at the request of the Conference of Deans of Black Graduate Schools. His presentation was largely concerned with an exploration of the mission, workload, and potential of black graduate schools as effective instruments for broadening access to graduate education for all qualified students who wished to attend these institutions. Note was taken of the special role which these schools are able to play in the education of minorities largely because of the prior involvement of their faculties with students whose cultural and educational experiences have been relatively constricted. In the past, these schools have demonstrated a special competence in providing academic and motivational bridges for students with great potential but whose communication devices and relational schemes were different from those in vogue at majority institutions. At the same time these institutions have accepted and been guided by the general purposes to graduate education. In this too, they have achieved a success out of proportion to any conventional estimate of the investment made in their operation.

In examining the workload of black graduate schools, Cobb indicated that there are currently 31 black institutions offering a wide variety of programs of graduate work. In the spring of 1973, when a survey of the 27 institutions operating, at that time, was made 21 of these schools enrolled a total of 14,393 students. A total of 3,862 master's degrees and 43 doctorates were conferred for the school year 1973. The number of doctorates earned at the 3 black institutions granting such degrees was approximately 5.7 percent of the 760 doctorates earned by U.S. blacks in 1973. The tremendous growth which blacks graduate schools sustained in both enrollment (5,737 Spring '69—14,393 Spring '73) and degree production (1,854 in 1968—3,862 in 1972—Master's degrees) seems to warrant the conclusion that these institutions are now functioning as effective instrumentalities for access to graduate education, especially for minorities.

The Reeves paper "Financial Problems of Black Graduate Schools" had as its major focus a critically needed change in the image of black graduate schools. His view was that the minimal support which black institutions involved in graduate work receive is basically a function of how they are

regarded within the general context of graduate education. He asserted quite emphatically that currently there is a strong tendency to equate education received at black graduate schools with substandard education and to accept the proposition that the graduates of black institutions are inferior. He expressed doubt that anything important in the way of external support would be forthcoming until blacks were considered as peers in graduate education. To him, the immediacy of such a recognition was crucial to a positive expectation for the future of black graduate schools.

The paper made three rather strong recommendations which related need to financial support. First, he emphasized the need for a more meaningful relationship between black graduate schools offering the master's degree only and majority institutions with fullfledged doctoral programs. Here, there was a need for the latter institutions to do more than simply grant legal admission to the graduates of black graduate schools but also to provide financial and other supports consistent with the earning of a terminal degree. Second, as a matter of principle, the somewhat later entry of blacks in the pipeline of graduate education should be recognized as a societal problem. And, third, the financial support of black graduate schools should be seen as a matter of national interest and support requested from and expected from both the public and private sectors.

Oscar Rogers presented a paper on "Indices of Quality Education in Black Graduate Schools." The framework of this paper accepted as a theoretical stance the positions taken in the preceding papers but reduced to clearly identifiable and clearly defined parameters the criteria for assessing quality education. More important, perhaps, was the fact that the paper indicated the general extent to which these qualities are now present in the programs of black graduate schools with some recommendations for needed improvement. A summary of the major indices of quality education in black graduate schools as presented in the paper is as follows: (1) status of accreditation by regional and/or national agencies, (2) member-in organizations which confer status and provide avenues for entry into the mainstream, (3) the calibre of faculty-regraded universally as a critical attribute of quality, (4) salaries which in most instances indicates the competitive positive of an institution in the academic market place, (5) the library holdings, facilities and equipment for research serve to set the boundaries of that the most energetic and self-sacrificing faculty may do in this area, and (6) the budgetary allocations made for research which is a rather reliable indicator of the extent to which an institution or system of education has made a commitment to significant research effort.

Graduate Education in The Biomedical Sciences

Chairman: William Macmillan, *University of Vermont*
Robert C. Baldridge, *Thomas Jefferson University*
Daniel T. Watts, *Medical College of Virginia*
Ralph A. Bradshaw, *Washington University*
Herbert B. Pahl, *National Academy of Science*

William H. Macmillan

This is the fourth annual meeting of the Biomedical Sciences Committee of The Council of Graduate Schools. These meetings were initiated by a group of deans who were concerned about the sudden change in the profile of doctoral programs in the basic medical sciences following the abrupt termination of the training grant programs of NIH in the early 1970s.

We all rode out the period of withdrawal, and for some it was pretty rough, but we have survived. However, our adjustment to new funding bases has not eliminated our problems; rather it has led us to a new environment for graduate education.

Each year, the Steering Committee for this group has tried to identify areas of concern relative to our educational environment in the Biomedical Sciences. Today we look at three aspects.

1. The administrative structures of graduate programs in the health sciences;

2. The state of the art of determining "need" for the products of our graduate programs;

3. A discussion of two position papers previously circulated by mail:

   (a) The Importance of Low Enrollment Ph.D. Programs in American Higher Education, and

   (b) The Role of Graduate Education in the Biomedical Sciences.

The Administration of Biomedical Science Graduate Programs in Academic Health Science Centers

Robert C. Baldridge

Of the 114 medical schools in the United States most often referred to as, or part of, centers, 19 can be identified as "free-standing," i.e., not a part of a parent university. Another 20 take the name but are located in a

different city from that of a parent university.† Several of the latter are independent. For example, the University of Oregon Medical Center reports directly to a state governing board rather than through the administrative officers of the University of Oregon at Eugene. In other cases, the health science centers are semi-autonomous; e.g., Cornell Medical Center at New York City has a code of administration separate from that of the University at Ithaca. It is not unusual to find medical and other health science schools in an urban center administered by a chancellor who is also responsible for units such as a law school, a school of arts and sciences, etc.

Of the 19 in the first group (the "free-standing"), two—Rush in Chicago and Medical College of Ohio—are just starting; 10 are members of the Council of Graduate Schools. All of the 20 "university-related" are members, either as entities or through the parent universities.

Graduate deans of 30 of these 39 medically-oriented institutions responded to requests for information about the administration of their graduate biomedical programs. From the information received it is possible to make the following generalizations.

In many, graduate education was started after World War II—several during the sixties. In addition to traditional Ph.D. programs in the basic medical sciences of anatomy, biochemistry, microbiology, pharmacology and physiology and (experimental) pathology, several schools have programs in newer disciplines such as biophysics and cell biology, and the Graduate Dean administers programs in other fields such as the behavioral sciences (especially those in psychology related to mental health), biometrics, medical technology, preventive medicine and other health-related specialties. In some cases, graduate programs in disciplines related to pharmacy and dentistry are also included.

The number of graduate students in the basic medical sciences in the "free-standing" institutions is mostly in the range of 40-90. When students in other health-related programs are included, the number is about double. Thus, the total graduate enrollments are characteristically small in these institutions by comparison with those of more diverse universities.

Of the 19 institutions, all except three have a Dean of the Graduate School. The others are administered by an Associate Dean of the Medical College or a Director of Graduate Education. Usually there is not a separate budget for graduate education for other than administration, and the graduate dean has little formal input into faculty appointments and promotions. In some cases there is heavy dependence on the participation of members of associated research institutes who hold faculty appointments in the graduate college. Typically there is a graduate council or graduate board whose make-up is related to the peculiar circumstances and historical development of the institution. Some of the policy-making bodies

†Appended to this report is a list of institutions deemed to fall in the categories of "free-standing" and "university-related." The listings were made on the basis of information gleaned from the 1975 Directory of the Association of American Medical Colleges.

consist of only departmental chairmen; almost all include some departmental chairmen.

Most of the schools have entered into cooperative arrangements with other institutions in the vicinity to provide breadth to their graduate programs; such arrangements are considered especially valuable to students who need access to graduate course work in chemistry and physics.

Apparently all have combined M.D.-Ph.D. programs, some formalized, some informal. A problem frequently cited is that of trying to cope with students who applied but failed to gain entrance to medical school and who wish to enter graduate study as a "back door to medicine."

The organizational patterns and problems in the autonomous and semi-autonomous university-related medical or health science centers are much the same as those described above. Some of the campuses have become autonomous fairly recently (e.g., the University of Oklahoma Medical Center); others have been essentially independent for a considerable period (e.g., the University of Tennessee Medical Center at Memphis).

Graduate enrollments in these centers are somewhat larger than in those of the "free-standing" institutions; as indicated above, many include other schools. Generally there is some relationship or liaison with the parent university. In two cases, the relationship is quite close (Loyola of Chicago and Penn State-Hershey). In another (University of Colorado at Denver), an associate dean, appointed by the Dean of the Graduate Schools of the parent university, supervises the graduate programs at the medical center to include the admission process, but the approval of courses for graduate credit comes from the parent campus. Most, however, may be characterized as autonomous or semi-autonomous institutions.

If these institutions are added to the number of "free-standing" ones, it may be concluded that some one-third of the academic medical (or health science) centers in the United States have the characteristics of independent colleges or universities and may be considered as individual graduate institutions. The basic patterns of administrative organization are not unlike those found in other types of institutions, however the intimate association with a medical school and the close relationships with a single governmental agency (the H or DHEW) make for unique problems and opportunities.

"Free-standing" Institutions

*Medical College of Georgia
*Chicago Medical College
*College of Medicine and Dentistry of New Jersey
*Albany Medical College
*New York Medical College
*Medical College of Ohio
*Hahnemann Medical College
Meharry Medical College
*Baylor College of Medicine
Medical College of Wisconsin
*Rush Medical College
University of Texas HSC at Dallas
University of Texas HSC at San Antonio

*Jefferson Medical College
*Medical College of Pennsylvania
*State University of New York HSC at Brooklyn
*Medical College of South Carolina
*University of Texas Medical Center at Houston
*University of Texas Medical Branch at Galveston

"University-related" Institutions

*University of Alabama at Birmingham
University of Arkansas at Little Rock
*University of Connecticut at Farmington
*University of Colorado at Denver
*University of Illinois at Chicago
University of Indiana at Indianapolis
*University of Kansas at Kansas City
*University of Maryland at Baltimore
*University of Mississippi at Jackson
University of Missouri at Kansas City
*University of Nebraska at Omaha
*University of Oklahoma at Oklahoma City
*University of Oregon at Portland
*University of Tennessee at Memphis
*University of Massachusetts at Worcester
*University of California at San Francisco
*Loyola University at Chicago
*Cornell University at New York City
*Penn State University at Hershey
Tufts University at Boston

*Deans provided information for this survey.

Graduate Education in Biomedical Sciences in a University Medical Center

Daniel T. Watts

The Medical College of Virginia, founded in 1937 is composed of Schools of Medicine, Dentistry, Pharmacy, Nursing, Basic Sciences, Allied Health and the University Hospitals. The Medical College was merged with Richmond Professional Institute in 1968 to form Virginia Commonwealth University, a State supported institution with an enrollment of approximately 18,000 students. The six Deans and the Executive Director of University Hospitals report to the Provost, the senior administrative officer of the Medical College of Virginia. The Medical College has an enrollment of 2,183 students in the six schools and a faculty of 682 FTE.

The School of Basic Sciences was made an autonomous unit in 1966 with departments of anatomy, biochemistry, biophysics, biostatistics, genetics, microbiology, physiology, and pharmacology. The major responsibility of these departments is teaching of medical (45% of total effort),

dental (16%), pharmacy (12%), nursing (5%), allied health (3%) students. The Dean of the School of Basic Sciences also serves as chairman of the MCV Graduate Council and 19% of the effort of these departments is devoted to the education and training of M.S. and Ph.D. candidates. Though this school was formed primarily to develop strong departments for teaching the large classes in health professional schools, a normal progression has been the development and the expansion of the M.S. and Ph.D. programs in most of the basic science departments. Likewise, an increasing number of postdoctoral trainees have been fitted into the research and teaching programs. There were 21 postdoctorals distributed through five of the departments in 1974-75.

Table 1 summarizes some of the developments in the School of Basic Sciences from 1966-67 through 1974-75. The faculty increased from 57 FTE to 117, nine of whom are supported by career development awards from federal agencies or national foundations. A more important development has been the change from a service type faculty meeting their commitment to the educational programs of the health professional schools to a strong, comprehensive faculty with a good balance of senior and junior faculty, postdoctoral and predoctoral fellows. This faculty is currently doing a better job of teaching the health professional students, and is

TABLE 1

Summary of Development Over Eight Year Period, 1967-1975

School of Basic Sciences
Virginia Commonwealth University
Medical College of Virginia

	1966-67	1974-75
Faculty FTE	57	117
Clerical-Technical FTE	59	150
Budget—State	$1,154,630	$2,948,323
Grant	153,354	2,954,777
Total*	$1,307,984	$5,903,100
Class Size Medical/Entering Class	112	168
Dental/Entering Class	80	110
Pharmacy/Entering Class	85	100
Nursing/Entering Class	107	124
*Graduate Total Students	63	310
Papers Published	47	180
*Graduate Degrees M.S.	8	49
Ph.D.	7	19

*Basic Sciences plus Pathology, Pharmaceutical Chemistry, Pharmacy, Nursing, Medical Technology and Physical Therapy.

conducting a wide variety of research programs and training well qualified Ph.D. candidates.

The state budget increased from $1,154,630 to $2,948,323 over an eight year period, roughly parallels the increase in enrollment and inflation. The outstanding growth has been in the grant budget which has increased from $153,354 to $2,954,777. This speaks well for the quality of research since essentially all of these grants come from federal agencies or foundations which use the peer review system. These research programs, of course, offer a good environment in which to train Ph.D.'s in the biomedical sciences. Papers published and degrees granted have likewise shown rapid growth over this eight year span. This growth is even more pronounced when calculated for 1961-65 when an average of 4.0 Ph.D.'s were awarded annually. Ten years later in 1971-75, an average of 18.2 Ph.D.'s were awarded annually. As graduate programs were expanded in the late 1960's, the Graduate Council was instrumental in developing M.S. degree programs in nursing, medical technology, and physical therapy which had not previously existed. Clinical and basic science faculty members routinely served on these master's degree committees during the formative years of these programs which are now well established. Over this same period of time, there has been a highly significant improvement in the performance of our students on Part I of both the Medical National Boards and the Dental National Boards.

In summary our objective has been to develop strong departments with a good balance of senior faculty, junior faculty, postdoctoral fellows and predoctoral trainees. By developing a critical mass of scholars, we find these departments can do an outstanding job of teaching the professional students while conducting graduate training and research programs.

Physical facilities, including faculty offices, research and student laboratories, research equipment, libraries, animal facilities and shops, are necessary for the education and research programs in the health professions schools and are also available for the graduate training programs. Such an arrangement proves to be a good environment for Ph.D. training, avoids the excessively high cost of free-standing graduate programs and is economically feasible. The faculty feels that under these conditions, the Ph.D. trainee is definitely an asset and not a liability to the education and research programs of the university.

The Graduate Program in the Division of Biology and Biomedical Sciences at Washington University— A Multidisciplinary Approach

Ralph A. Bradshaw

The biomedical graduate program at Washington University encompasses a somewhat different concept than that found in most graduate schools; namely, a non-departmental, broad discipline-based structure, that is effective both during recruitment and after enrollment. The vehicle for

this relatively new approach to graduate study in biology is the Division of Biology and Biomedical Sciences which was formed some two and one-half years ago and includes within one administrative structure, the department of biology and the seven preclinical departments of the School of Medicine; namely, the departments of anatomy and neurobiology, biological chemistry, genetics, microbiology and immunology, pathology, pharmacology, and physiology and biophysics. Although the reasons for forming the Division were several, one of the most important was to provide a unified approach to graduate education in the biological sciences in an institution where one-third of the total student enrollment is at the graduate level.

In a larger sense, the formation of the Division was simply a reflection of already well-established trends in research and biology and the biomedical sciences. It has been increasingly evident in recent years that the boundaries separating classical disciplines have been steadily eroding to the point that, in some cases, a meaningful distinction no longer remains. At the same time, techniques and approaches to problems clearly identifiable as part of one or another separate discipline have found increasingly common application. For example, it is not unusual to find the biochemist utilizing the electron microscope while the experimental pathologist is preparing hormones with radioisotopic labels. This concept, that the well-prepared scientist needs to be adept in several areas, and should not be held back in his search for incisive experiments by limited experience as a graduate student, clearly fostered much of the incentive to form the Division.

However, narrower and necessarily more mundane factors were also involved. In the first place, the division of research funds and, therefore, graduate students at Washington University were not uniformly distributed throughout the constituencies that were pooled to form the Division. There was a decided bend in these resources toward the departments of the School of Medicine, which created unevenness in both graduate and undergraduate education in the University as a whole. Secondly, the course offerings of the various departments were in many areas, redundant and sometimes even had become archaic, mostly as a result of the fact that individual departments had built up over a period of years overlapping interests. Finally, it was felt that the geographical location of the University placed it at a distinct disadvantage in its attempts to recruit students from what appeared to us to be an ever-diminishing pool of top graduate school candidates in the biomedical sciences. Thus, for these and other less important reasons, the University adopted, in 1973, a graduate structure for study in biology and the biomedical sciences, whereby all students wishing to prepare for the doctoral degree in these fields entered the University as a single class of uncommitted students and formulated their research training plans on the basis of their first year experiences.

The most notable effects of the Division structure on graduate education as opposed to programs administered at the departmental level are seen in the recruitment process and in the first year of study, which are controlled almost entirely outside the departmental structure. All publicity is sent out from and all applications are subsequently processed in a central

division office. When applications are complete they receive an initial, very cursory, screening and are then sent to the central admissions committee for review and subsequent action. This committee is constructed so as to reflect in proper balance the five divisional programs in cellular and developmental biology, evolutionary biology and ecology, molecular biology, neural sciences and plant biology. Every member of the faculty is included in at least one of these programs which also serve to provide advisors to first-year students, to monitor course and seminar offerings, and to administer preliminary exams. The admissions committee operates only rarely as a committee of the whole. Most review work is done in subcommittees reflecting division program interests. Although these subcommittees have the authority to accept or reject a student, acceptance is never made without a personal interview, conducted on campus at the expense of the Division. The coordination of the activities of the subcommittees, including the regulation of the number and distribution of students, is the province of the committee chairman. It was, and remains, an important tenet of the Division graduate program that there be a fixed number of students admitted to the graduate program each year. This number is set by the Executive Committee of the Division for each class. The present ceiling is 40, of which no more than 12 can be in the M.D./Ph.D. program. These latter students are recruited independently by a separate admissions committee.

Upon enrollment at Washington University in September, Divisional students adopt a course of study that is selected by the student and his/her advisor. Students also consult with the coordinator of the program to which they have been assigned. When appropriate, students can select course work from more than one program and often will have two advisors assigned reflecting their interdisciplinary interests. Such "mixed curricula" are clearly encouraged and represent one of the most attractive features of the Division structure to students during the recruitment phase.

During the first year, the Divisional student also takes part in a rotating research program that is tailored to give the student exposure both to various members of the faculty from whom the student is most likely to select a thesis advisor and to a variety of research techniques. As such, this program is meant to supplant formal laboratory courses. However, this is certainly not the only vehicle by which the student is introduced to the Divisional faculty. Students are free to take part in any of a number of "lunch" or journal club seminars that are offered by departments or other interest groups such as the Cancer Forum. Such programs are highlighted by faculty presentations. In addition, a series of afternoon meetings are scheduled in early fall in which students, taken in modest-sized groups, meet with various faculty members for informal discussions of the faculty research interests. A booklet, which is updated at two year intervals, containing, in a one page abstract format, the research interests of all faculty members, is distributed to students both at the time of their interview and at their enrollment.

At the end of the first academic year, Divisional students are expected to select their advisors and begin work on their thesis research immediately.

By the nature of this selection, students become "housed" in one or another of the departments and the remaining part of their scientific training will reflect the interests of this advisor and, to a lesser extent, the department. Preliminary examinations are still given during the second year under the auspices of the appropriate Divisional program. In addition, every student in the Division is required to be a teaching assistant for one full year (i.e., two semesters). The load is evenly distributed to all students as each receives exactly the same financial remuneration. It is perhaps germane to point out that all students accepted for study in the Division receive tuition (amounting to approximately $3,450) and a stipend (which currently is $3,900 per annum) automatically. No students are accepted on a conditional basis (i.e., without support). This financial support, which reflects present National Institutes of Health guidelines, is guaranteed for four years; annual increments and dependency allowances have been eliminated.

The financial structure of the Division graduate program is derived from both University and federal funds. This picture is somewhat complex and has changed during the past two years because of changes in the federal training grant policies. Nonetheless, the commitment in University funds still remains high. At its inception, it was calculated that operation of the Division would require an expenditure by the University of approximately 12 million dollars over a ten year period. Some of these funds are earmarked for ten newly-created faculty positions. With salaries and set-up money for each of these positions, there was a commitment of about one million dollars. An additional 5 million dollars was allocated for renovations and refurbishments to house these new faculty members, as well as to accommodate changes necessitated by rearrangement of existing faculty assignments. The remainder of the funds will be devoted to operations and graduate student support.

In the budget for the present year, which slightly exceeds one million dollars, about $600,000 are for graduate student support. With the reestablishment of two major training grants to support the M.D.-Ph.D. program and a new program in cellular and molecular biology, some $400,000 of University funds have been saved. The remaining $200,000 provided by the University supports not only the two Divisional classes but also all upper class graduate students that no longer receive support from terminated training grants or other sources. These funds are provided by the College of Arts and Sciences and the School of Medicine, which have separate budgets, in the ratio of 22 to 78%. This figure was based on proportional faculty ratios. While some of these funds represent rebudgeting of monies previously earmarked for paying departmental teaching assistants, the majority, *particularly* the four-fifths contribution of the School of Medicine, represents investment of new funds. It should be noted that the budget for graduate support for the Division when four full classes representing 160 students have been recruited will be 1.1 million dollars at present rates. Over $600,000 of this figure is in the form of stipends which represent a direct cash outlay. All funds from this category not covered by training grants will be paid by the University. By comparison, the monies

expended on recruitment, including interviews and operation of the Divisional office are relatively insignificant (less than $50,000).

I would like to close my remarks with a brief critique of this structure as we have experienced it so far. On the negative side, the Division has not, at least initially, alleviated the uneven distribution of graduate students throughout the biological faculty. In fact, with totally free selection, students appear to "clump" even more than before. Furthermore, the creation of a "new" curriculum has also created problems in quality control. With graduate courses now being offered by faculty from several departments, no administrative structure is available to properly admonish faculty for poor performance in the classroom. Thus, the Division has weakened, at least in some areas, the traditional authority of the department chairman. This same problem has manifested itself in determining program requirements in terms of course work and qualifying examination format. At present, all programs have greatly "watered down" their requirements in order to appease their now much broader range of faculty opinion found in each Divisional program. Finally, it has turned out to be difficult to adequately keep track of the progress of students while they are in their uncommitted year, and few have really taken advantage of the broader opportunities offered by the Division structure despite the keen interest expressed in this facet during their interviews. However, it should be emphasized that none of these present limitations appear to be insurmountable on a long term basis.

On the positive side, the most important accomplishment of the Division has been the upswing in the quality and quantity of the applicants for graduate study. It is clear that as a recruitment device, it can accomplish at Washington University what individual departments struggled very hard to reach and rarely, if ever, did. Although adequate measures of graduate student excellence are probably non-existent, by every accepted criteria, such as GRE scores, GPA, etc., and, perhaps more importantly to us, faculty opinion, the last Division class entering this fall is superior in scope to any previous group of graduate students studying in the biomedical and biological sciences at Washington University.

I should better emphasize, however, that this is not the only accomplishment. Better faculty and student rapport, both among themselves and between groups is evident. This has already led to material cross-fertilization in research ideas and projects and suggests that perhaps it is premature to judge the interdisciplinary interests of students. The overall improvement in the research environment that the Division has brought so far, and promises to bring in the future, may be, in the long run, the most important accomplishment of all.

It should perhaps be noted that this structure may well not meet the needs of all institutions. Clearly the attitudes of the administration, particularly chairmen of the participating departments, will be crucial in dictating the success or failure of such a program. In addition, a strong financial commitment by the university is a fundamental prerequisite. If the majority of the program is not underwritten from some source, it will have little chance of overcoming the inherent negative attitude that it will

face initially from most of the faculty of any institution. However, based on our experience, which has been so appropriately mirrored of late in such major funding agencies as the NIH, the *interdisciplinary* approach represents the best solution to providing doctoral students with the depth of training they will require to compete in tomorrow's job market. We, at Washington University, feel we have passed out of the experiment phase and into a working structure that we expect to keep for many years to come.

Study on National Needs for Biomedical and Behavioral Research Personnel--A Status Report

Herbert B. Pahl

It is a pleasure for me to meet with you during this 15th Annual Meeting of the Council and to have this opportunity to present a status report on the activities of the National Research Council's committee which is studying National Needs for Biomedical and Behavioral Research Personnel.

You undoubtedly will recall that at your meeting last December Lyle Jones presented a report on the National Research Service Award Act of 1974, in which he summarized the main purposes of the Act, reviewed the activity which the Commission on Human Resources of the National Research Council had undertaken at the request of the Secretary, HEW, in connection with the Act and, lastly, shared some of his personal views concerning the difficulties in implementing the terms of the new legislation.

At the risk of repeating what already is familiar to you, I should like to highlight a few of the essential features of the NRSA Act. The Act, which is Title I of the National Research Act (P.L. 93-348), has as its purpose "to increase the capability of the institutes of the National Institutes of Health and the Alcohol, Drug Abuse and Mental Health Administration to carry out their responsibility of maintaining a superior national program of research into the physical and mental diseases and impairments of man." Individual and institutional NRSA awards are available for both predoctoral and postdoctoral research training at non-federal public and nonprofit private institutions, as well as for training at the NIH and ADAMHA. Awards are for up to three years of support, with a requirement that awardees must engage in health research or teaching, or service in the National Health Service Corps or other approved service activity, for 12 months for each year for which training support has been provided. After July 1, 1975, awards may be made for research training only in those subject areas for which the National Academy of Sciences has determined through a continuing study that there is a need for such personnel.

Under Section 473 of the Act the Secretary, HEW, was directed to arrange with the National Academy of Sciences for a continuing study to:

(1) establish (a) the nation's overall need for biomedical and behavioral research personnel, (b) the subject areas in which such personnel are

needed and the number of such personnel needed in each such area, and (c) the kinds and extent of training which should be provided such personnel;

(2) assess (a) current training programs available for the training of biomedical and behavioral research personnel which are conducted under this Act at or through institutes under the National Institutes of Health and the Alcohol, Drug Abuse, and Mental Health Administration, and (b) other current training programs available for the training of such personnel;

(3) identify the kinds of research positions available to and held by individuals completing such programs;

(4) determine, to the extent feasible, whether the programs referred to in clause (b) of paragraph (2) would be adequate to meet the needs established under paragraph (1) if the programs referred to in clause (a) of paragraph (2) were terminated; and

(5) determine what modifications in the programs referred to in paragraph (2) are required to meet the needs established under paragraph (1).

In addition, it was required that the results of such study shall be submitted by the Secretary to the Congress not later than March 31 of each year.

At the time of your Council meeting last year, the Academy was engaged in a study to determine the feasibility of estimating national needs for research personnel in the biomedical and behavioral sciences. That study was conducted under the chairmanship of Dr. Robert J. Glaser, and a report submitted to the Secretary on February 1, 1975.

The major recommendation and some other findings from this study were:

(1) that the NAS accept the responsibility to conduct the study mandated by P.L. 93-348, recognizing that the study must be viewed as a long term undertaking which must extend beyond the 1 year authorization contained in the Act;

(2) assessment of the nation's needs for such research personnel is a necessary task in view of the large national interest in this area and the need to use national resources wisely. Further, it is a difficult task that must be approached with a clear recognition of the difficulties;

(3) results of previous attempts to produce supply and demand forecasts by field and discipline have been spotty. Therefore, further studies of forecasting for specific fields are clearly needed to

throw light on the conceptual, methodological and practical problems of forecasting by discipline;

(4) one of the central problems of projections is the difficulty of formulating generally acceptable concepts of underemployment. Specifically, there is a need to determine the criteria by which underemployment is to be defined, and to attach quantities to the criteria to permit enumeration of the underemployed.

Having accepted responsibility to conduct this continuing study, the Academy immediately undertook preparation of the first annual report. Although due March 31, an extension of time was granted and the report was submitted in mid-June of this year, a little more than 3 months from the commencement of the study. Of necessity, therefore, the report dealt with a limited analysis of the current situation rather than with specific projections.

The Committee recommended that federal training support be maintained in FY 1976 at the levels that prevailed in FY 75, and suggested that a somewhat greater emphasis be placed on postdoctoral training than on predoctoral training in the behavioral sciences and especially health services research.

The Committee also recommended, while recognizing the importance of predoctoral fellowships in certain instances, that predoctoral training of NIH, ADAMHA and HRA be supported through training grants. Also, until the Committee had an opportunity to examine the situation more carefully, it recommended that the proportions of postdoctoral training given in the form of fellowships be essentially similar in FY 1976 to what it was in FY 1975.

In organizing itself for the preparation of the first year's report, the 14-member Committee established four disciplinary panels (Basic Biomedical Sciences, 12 members, Dr. Herschel Roman, Chairman; Clinical Sciences, 9 members, Dr. Robert Chase, Chairman; Behavioral Sciences, 9 members, Dr. William Bevan, Chairman; Health Services Research, 6 members, Dr. Robert Haggerty, Chairman) and a Data and Studies Panel (13 members, Dr. Kenneth Clark, Chairman) which served as an overall resource panel to the others and to the Committee. A small, but capable, dedicated NRC staff was assembled to assist the Committee and panels.

The conceptual framework established for the study involves deriving information from and making comparisons among three fields of activity which have been termed "Background Studies," "Pipeline Studies" and "Labor Market Studies." In Background Studies factors such as demographic data, directions of research, patterns of utilization, levels of R & D and cost/benefit analysis of graduate education are explored, and then projections developed. Under Pipeline Studies, data on enrollments, degrees attained, attrition, aging of the research work force and geographic and field mobilities are obtained. Lastly, Labor Market Studies include studies involved with employment factors, demand surveys, placement information, etc.

Since mid-June when the 1975 report was submitted the Committee has been attempting to initiate some of the studies outlined above, capture to varying degrees and begin to analyze the wealth of information which is available in NIH, NSF and OE data files, the NSF's Graduate Science Support and Postdoctoral file, etc., while simultaneously planning the preparation of the 1976 Report which is due next March 31. Thus, with its third report about to be drafted, all within a 12-month period, you will appreciate that neither the Committee and its Panels nor the NRC staff have had the opportunity to do more than make a start on some of the very complex issues which the Act requires be the concern of the Committee.

For example, although the Act calls for the Committee to "establish the nation's overall need for biomedical and behavioral research personnel," obviously such need cannot be established in isolation from considerations of what the federal role will be in supporting the biomedical research enterprise. It therefore is important that the Committee's efforts be coordinated as closely as possible with the activities of the President's Biomedical Research Panel, and indeed, this is the case. Several of the members of the NRC Committee and Panels are serving on the interdisciplinary cluster groups of the President's Panel, thus assuring close and continuing liaison between these two independent efforts. A more accurate term for what the Committee believes can be accomplished is an *assessment* of national needs rather than the *establishment* of national manpower needs.

Difficult as the assessment of overall national needs is, even by major aggregate fields—basic biomedical sciences, clinical sciences, behavioral sciences and health services research—more difficult still is the requirement that the Committee make such assessments for "the subject areas in which such personnel are needed, and the kinds and extent of training which should be provided such personnel." Previous and current studies which concern these matters founder on the rocky shores of definitions of subject fields (the taxonomy issue) and the inability to determine accurately the nature and extent of field switching and field mobility between and among training areas. Nonetheless, it is not unreasonable for the Congress to expect that some discriminations can and should be made in the levels and kinds of personnel which should be available to sustain and advance the quality of our national biomedical research effort. Also included in this aspect of the study is the need to identify both emerging and declining fields/areas of research, in order that the future supply and demand balance which will exist 4 to 7 years from now when today's graduate students enter the labor force, is not tipped too heavily in one direction or another for any given area so as to result either in obvious shortages or in an underutilization of trained valuable personnel.

As the Committee looks toward the future, it is clear that much needs to be done to develop and refine our basic methodologies, data gathering and analyses, and to make certain that we bring to this work the wisdom and insights of those who can contribute to our task. Thus we will look to professional societies and associations of all kinds for constructive suggestions and assistance in this effort which has such far-reaching, immediate and long term effects.

In concluding, I wish to emphasize it is recognized that such assessments of society's needs, supply levels and practical "demands" for doctorate biomedical and behavioral research personnel are affected by a changing economy, flexible federal priorities in the areas of health research and health care/health services, and also by the impacts on health care of the scientific advances which result from the labors of those who constitute the nation's biomedical research manpower resource.

The picture thus is dynamic, complex, and difficult. Yet in a time when the nation at last has come to realize that its national resources of all kinds are indeed finite, it is neither inappropriate nor impossible to set about to begin to learn how to utilize more effectively our most sacred and important national resource of all—our individual and collective human potential. This goal, applied to the important area of biomedical and behavioral research personnel, seems worthy of our attention and efforts, limited as we may be currently in our actual capabilities to achieve all that may be desired.

Thank you again for this opportunity to meet with you and to provide an overview of what the Committee is attempting to do as it seeks to implement in a rational way the charge which the Congress already has placed before it, and anticipates the pending legislation which promises to renew that charge.

First Plenary Session

Monday, December 1, 1975, 2:30 p.m.-4:30 p.m.

PLACEMENT OF PERSONS WITH GRADUATE DEGREES OVER THE NEXT DECADE

Presiding: J. Chester McKee, Jr., *Mississippi State University*
N. B. Hannay, *Bell Telephone Laboratories*
Eneas D. Kane, *Standard Oil Company of California*
Robert M. Lumiansky, *American Council of Learned Societies*

Charles T. Lester

My name does not appear on your program because Boyd Page and John Ryan have been trying to keep you from finding out that I had anything to do with this organization for the past three years. But despite that fact, I am pleased to be here to perform a simple ceremony. As a member of the Executive Committee of the Council and as a long time resident of metropolitan Atlanta, it is my pleasure to welcome you to this Fifteenth Annual Meeting of the Council of Graduate Schools.

They tell me that if you want to make it big in Atlanta there are some things that you have to believe. I have come to question some of these. They used to say that you had to believe that *Gone With the Wind* was the greatest movie about the Civil War, and I have come to question that. They also used to say that you had to believe that Bobby Jones was the greatest golfer that ever lived; but, of course, Jack Nicklaus is beginning to raise some question about that. But, I have to tell you about one thing I have no doubt—that is, if you want to make it big in Atlanta, you have to believe that Coca Cola is the best soft drink in Atlanta.

It is my pleasure to turn the meeting over to Dean Chester McKee, who is the presiding officer at this particular session.

J. Chester McKee, Jr.

I welcome all of you to the first plenary session and the very lively topic that has been arranged for you this afternoon by the program committee—the "Placement of Persons with Graduate Degrees Over the Next Decade." For a number of years, many of us have been concerned with this topic. We have had our graduates leave us saying that they have had difficulties, while other of our graduates leave us to find they have very excellent opportunities awaiting them.

This afternoon, Dean Elberg, your Program Chairman, has truly arranged a panel of "stars" to discuss this topic with us. The thinking in the arrangement of this panel was that we as graduate deans need the opinions

of others, others who are in the place of hiring our graduates, to bring to us a different viewpoint on the subject.

Our first speaker is a native of San Francisco and serves as Vice President for Research at the Standard Oil Company of California. Dr. Kane received his B.S. and Ph.D. degree in Engineering from the University of California at Berkeley, and in between received the Master of Science degree in Engineering at Kansas State in 1939.

His initial employment was with Westinghouse Electric Company. In 1940, he subsequently went back to the University of California and was involved in the Manhattan District Project. He has served on the faculty of the University of California, Berkeley, for a number of years as associate professor of Engineering. In 1952, he joined the Standard Oil Company of California where he held a number of positions. In 1970, he became the Vice President for Research. He serves the University of California as an Engineering Advisory Council member and the Berkeley campus as a member of the College of Engineering Advisory Board. He also serves in the federal government as Vice President for the Coordinating Research Council.

It is a pleasure to introduce to all of you, Dr. Eneas D. Kane.

Eneas D. Kane

Thank you. It's a pleasure and an honor to be with you. It's also a welcome change—that is, for someone connected with a major oil company to be asked to discuss somebody else's problems.

The last few years have been difficult for both business and education. Lately, oil men have endured even more criticism than educators. This is a fairly new experience for us, but the oil industry is only a hundred years old. Educators have always been catching it from somebody.

I must confess that I accepted the invitation to speak here today with some mixed feelings. As a former member of the engineering faculty at Berkeley, I remember some exposure to people who were quick to tell the academics how to run their business even though these people were innocent of any real understanding of the complexities of the educational process. These folks really didn't understand the problems—much less the viable solutions. Those early experiences left their mark—so you can be sure I'll avoid telling you how to do your job.

(If you'll forgive a comment a bit off the subject—I similarly wish that people who don't understand the oil business would show more restraint in telling us how to run it.)

In reflecting further on what I might say to you, I spent some time reading portions of the *Proceedings* of your 1973 and 1974 annual meetings.

Particularly striking to me were your own discussions of the many problems besetting higher education generally, and especially graduate schools. I am not going to repeat the litany of these problems—they are

well known to all of you and were identified and analyzed clearly and eloquently in your meetings. But cumulatively these problems were and are of such magnitude that some of you have been asking yourselves whether graduate education still is needed. Things are so uncertain and anxious that you have been wondering if it's worth continuing to fight the battle, and you have sought reassessment of and reassurance about the mission of graduate education. Is it needed and important enough to warrant your continued dedication?

Well, for one, I would not be here today if I were not completely convinced of the need for graduate education. One of your speakers last year put it this way—and I quote: "My basic faith in graduate education remains unshaken by all of the blows we have received. Our society's problems are no less severe than they were. Our capacity to train experts is no less than it has been. Over the long haul, I am sure we all know that an international, technological, urbanized society such as ours needs graduate education of the highest quality and in considerable quantity."[1]

I share this belief in the continuing need for graduate education. Just as one example, my company employs nearly 2,000 people in our research units, of whom almost 900 hold professional and scientific degrees, with about 600 of those holding advanced degrees. Our research personnel total has been kept relatively stable for the past ten years, and we foresee a continuing need for young men and women with graduate training and degrees in the fields in which we are involved.

If you'll forgive yet another parochial reference, I too confess to some concerns and anxieties—in my case about the future of industrial research organizations, such as the one I am responsible for, whose fortunes inevitably are tied to the economic health and prospects of the oil industry. This is not the forum or occasion for me to elaborate on the reason for these concerns, which of course relate to the current ferment about our country's problems in energy, environment, and economic performance. But there is something in the present scene that should be of mutual concern to you and me as citizens, as well as in our respective roles in education and business. I am referring to the spectacle in Washington, D.C.—repeated in many state capitols, as well as in countless communities across the country.

I hope you share my dismay when observing the low quality of most of the debate on today's national problems. This debate most often displays the very opposite of the ideals of graduate education. It is simplistic instead of scholarly; it panders to distrust, cynicism, demagoguery and the lowest forms of political expediency instead of a disciplined searching for truth and for reasonable and reasoned accommodation in the public interest.

While I think all of us should be very concerned, I am certainly not suggesting that this depressing national floundering is evidence that graduate education somehow has failed in its mission. There are too many complex factors that have contributed to this situation. If anything, the importance of quality graduate schools is magnified, rather than diminished, when we look for and think about the good and positive influences in our national life that could serve to improve our condition.

Perhaps the most useful thing I can do today is to offer some observations about the environment that your graduate students will find when they go to work in industry. You'll appreciate that my comments will be based on experience that is limited generally to the kind of business I have been in for the last 25 years. Much of that experience has been in the more technical aspects of industry, but some of my associates in personnel, public relations, economics, marketing and other functions have contributed input. Finally, I hope that these comments will be applicable, in some degree, to any type of job entered by your graduates.

Let's first recognize some of the attitudes that exist.

Some business leaders, for example (including many who do the hiring), are convinced that graduate educators almost universally frown on industry, and in fact on most practical applications of learning. These businessmen believe that graduate schools only want to educate university professors and are content to let industry glean the fallout. There is not yet sufficient recognition by businessmen, I think, that that attitude by educators, even where it once existed, is changing. The theme of this conference emphasizes your concerns with educating your graduates so they can best enter and prosper in the total marketplace for their services.

But difficulties remain for those of your graduates who are pointed towards employment outside the academic community if they find that their educational experience has not prepared them to enter the world of work. This applies even to those who have pursued scientific and engineering majors, supposedly more attuned to jobs in business firms.

For example, a survey of industry evaluation of training, attitudes, and adaptability of Ph.D. and B.S. degree holders in chemistry was conducted in 1971 for the American Chemical Society, and supported in part by the National Science Foundation.

Several conclusions were overwhelmingly endorsed by the respondents, who were managers of firms hiring a significant proportion of chemists. Eighty-four percent of the respondents found the Ph.D.'s weak in pertinent non-science areas such as economic analysis, humanities, personnel relations and communication. Somewhat under 60% found the interests of these new employees too narrow and inflexible. In reply to the query, "Is he unadventurous?" almost half the respondents answered "yes."

There were also a number of generalized findings of the committee that conducted the survey.

First, they saw a need for greater initiative on the job and greater attention to self-improvement. They found that graduates had insufficient awareness of, or respect for economic constraints, commercial applicability, and social needs. The committee concluded that graduates, and I quote, "have to be taught, and taught well, that there is no such thing as a free lunch."

The committee also noted industry criticism of an apparently excessive emphasis on theory and specialization in the training of these graduates. While granting their high technical quality, industry spokesmen nevertheless wondered if, and I quote, "a pursuit of elegance in problem selection, analysis and solutions has not subordinated such values as clarity, directness

and practicality." Obviously, these observations also would be applied to some other fields besides chemistry.

I would be remiss if I left the impression that a 1971 survey is still a valid characterization of the graduate students we have hired in the last several years.

I'm not sure if we can call it a trend, yet, but I believe we now are seeing more mature graduates than was the case in the crop of the 1960's, many of whom seemed to want to blow up the world.

For instance, last year we took a group of 12 Ph.D.'s into one of our research units, an unusually large influx into a unit totalling about 100 people. We had planned to provide the Ph.D.'s with staff "godfathers," so to speak—in the more traditional sense of the word "godfather"—senior people to help them through their first year or two of adjustment. As it turned out, all 12 took hold well and no special consideration proved necessary.

The reason? My hunch is that students usually are responsive to what they feel the world is going to ask of them. During the 1960's many students were involved in the trendy, emotional issues of that time. Nowadays, we are finding a lot of students who want to help to solve the energy problem, for example. They seem to have a more positive attitude toward their ability to contribute to solutions as well as a desire to do their best. Two other characteristics helpful to students entering the job market are a willingness to live with change and an ability to communicate.

Technical graduates, to be successful in industry, have to be attuned to change, and be comfortable with change—in fact, we hope they will contribute to or cause constructive change. There is the obvious need for them to keep abreast of swiftly changing technology—as well as a need to adjust to broadening responsibilities, and perhaps to switch to areas of work unrelated to their original studies. Certainly, the entering level master's or doctor's degree holder, if he or she should aspire to higher management positions, will have to be open to learning new skills.

The September 6, 1975 issue of the *London Economist* examined what it sees as a problem of a lack of communication skills in British technical graduates. It argues that technology is regarded in Britain "as the goose that pulls up the grass in the fields but has never laid the golden egg."

The *Economist* asks "what has gone wrong?" and finds possible significance in a paper recently delivered to the British Association. That paper describes an experiment in which groups of science undergraduates were asked to describe in 300 words a water tap dripping. Most of them failed to observe accurately what they saw. They also had difficulty putting their observations into words.

The *Economist* concludes "It is traditional to say there are too few scientists in British boardrooms, in Parliament, or in Whitehall. There are also too many people who would not understand them if they were there, because many British scientists have lost the arts of being output oriented and of saying what they mean."

Personally, I was surprised at this article—because we have several graduates of British universities who are outstanding speakers and writers.

Perhaps we were fortunate in getting their best to come with us—which of course is what our recruiters attempt to do.

But to return to the United States. Every year recruiters for Chevron and other technically-oriented companies visit colleges and universities all over the country searching for talent. I can tell you that the differences we see in candidates are enormous.

Some, at the end of years of grueling B.S., M.S., and Ph.D. programs, when asked what they wish to do, answer, "I really don't know."

Now, such young men or women are among the highest products of our educational system. A great deal of time, labor, and a far from insignificant amount of money have been invested in their education, and they don't know what to do with it. What they may really be saying is, "I don't know how I can apply my education to the outside world because I've never been there."

Let me offer two contrasting examples to help illustrate what might be done to make a difference in such a situation. Both instances involve real people who came to work for my company from graduate schools.

A few years ago our recruiters met a young man in his junior year at a major university, studying chemical engineering. Because he had family obligations, he had spent previous summers working in the university's chemical engineering department. He asked questions, and gained as much information as he could. He decided he wanted to make his career in the oil industry. He spent the next four summers working for different companies in various parts of the country, and in assorted jobs. When we talked with him, just before he received his doctorate, he knew what kind of a job he wanted, where he wanted to work, and the company he wanted to join. He had, in fact, fashioned his own work-experience program.

Of course, many of your schools encourage contact with companies doing the kind of work towards which your students are heading. Perhaps graduate schools also can help further with this problem by providing for the use of top industrial professionals as advisers to the faculty in particular fields—or even by occasional appointments as adjunct professors or lecturers.

My other example typifies the reverse side of the coin: a hardship, almost a tragedy. A bright girl came to our office in San Francisco looking for a clerical job, in desperation no doubt, because she held a master's degree in Spanish literature. She had to support herself, had no commercial training, and could not find a job that fitted her specialty. All our interviewer could offer her was a job as a file clerk, which she accepted.

It was particularly painful for her to realize that we were hiring high school girls with clerical training at higher entry salaries. We can, of course, wonder why she didn't ask herself some questions about employment *before* graduation. But experience indicates that many students simply don't do this soon enough, perhaps because they have no realistic idea of what life beyond school is like; possibly, in some cases, because they never expected to have to find a job in the business world.

But might not someone have counseled that young woman that there are few jobs available for Spanish literature majors? Would four years as a

literature major and two years of business school have been a better six-year investment? If she had brought us some educational experience we could use, we would have been glad to hire her for a more satisfying entry-level position than as a file clerk. Parenthetically, she may well move ahead in the company faster and higher than the high school clerical employees—but she should have got off to a better start.

Administrators in the business side of my company tell me that they feel students with graduate degrees in other disciplines usually lack training in the decision-making process, whereas, business school students and engineers normally get such training.

As you know, business schools use case-study programs, in which students are given a set of facts and asked to make a decision. Some of the facts are left out, just as business seldom has all the facts it would like in trying to solve its problems. The students are called upon for research, analysis, and judgement to reach their conclusions.

Engineering students usually work on problems which give them experience in synthesizing the solutions or alternative solutions to some type of design problem, drawing on the application of courses they have had.

I am told that lack of experience in such decision making, or problem solving, is one factor that limits job opportunities for liberal arts advanced degree students.

Recently, an anthropologist laid siege to our people in charge of hiring graduates. He insisted that what we really need is a broader view, a perspective which an anthropologist could provide. The question we could not resolve was, if we gave him a desk and, say, a telephone, what would he do? He seemed to feel that we would be less likely to have an oil spill if he were on the job. But we already know oil spills are undesirable, and we did not think he could aid our anti-spill programs, which involve facilities design, operator training, and the like.

We admired the man's persistence. But we simply have to employ people with talents which we perceive will contribute to our company's performance. I am quite sure that the situation of nearly every other firm is the same.

I am by no means saying that companies such as mine have no place for liberal arts graduates. We employ many. But I feel safe in saying that if more liberal arts students came to business and showed they were oriented toward and could make profit-motivated decisions for companies, they would be in greater demand.

I realize that there is a difference of viewpoint here. Industries are pragmatic, and tend to feel that the educational process ought to lend to the solution of the practical problems which confront them.

I saw a quote in a newspaper the other day that had the president of a major university making a disparaging reference to *"technocrats"*—apparently in the context of a discussion of the kind of educated person his school ought to be producing.

The term "technocrat" is one I haven't heard much since the 1930's—but his remarks struck me as exemplifying the basic problem of

higher education including graduate education: How to shape this educational process so that your graduates are broadly educated and will approach an ideal of scholarly achievement and promise, while still attaining those qualities of motivation, practicality, capacity for change and growth, and ability to communicate and persuade. And, at the same time, possess marketable skills which virtually insure a job at a good starting salary and with future prospects.

Stated that way, your job may sound almost impossible—yet some of your graduates exhibit all of these attributes to a remarkable degree. They are not technocrats, but well-rounded, capable and promising young people. So, many of you already must have been doing something right!

The university president's remark about technocrats also suggests a problem—perhaps I ought to say, opportunity—which we in business have. That problem is to find ways to contribute to your understanding of our environment and requirements while working with you to get better acquainted and to assist where we can.

The objects of what should be our mutual concerns and efforts—the young men and women who are your graduate students—are well worth our dedicated attention.

REFERENCE

1. Ryan, John W. (ed.), *Proceedings* of the Fourteenth Annual Meeting, Chairman's Address, Charles T. Lester, Council of Graduate Schools of the U.S., Washington, D.C., p. 64.

J. Chester McKee, Jr.

Our next speaker comes to us from one of the outstanding research institutions in this country, Bell Telephone Laboratories, where he serves as Vice President for Research and Patents. He received the B.A. degree from Swarthmore College and followed that with an M.A. and Ph.D. degree from Princeton University, where he specialized in Physical Chemistry.

Dr. Hannay is a member of the American Academy of Arts and Sciences and the National Academy of Engineering. He has served as past President of the Industrial Research Institute and the Electrical Chemical Society. He is a fellow of the American Physical Society and the American Chemical Society. In addition to all of this activity, he serves in an advisory capacity to the Department of Defense, the Department of Transportation, NSL, the National Bureau of Standards, and the Office of Science and Technology. Internationally, he is involved with the Organization for Economic Cooperation and Development. His higher education ties are numerous, serving in an advisory capacity to the University of California, both in Berkeley and San Diego, Stanford, Penn State, Princeton, Brown, and Cornell.

I am very pleased to introduce to you, Dr. Bruce Hannay.

Industrial Research and Graduate Education

N. B. Hannay

The organizers of this afternoon's session have clearly had something in mind in asking for the expression of an industrial viewpoint. Our basic institutional relationships always provide a sufficient reason, I think, but it would seem that in these times there is a particular need for people on both sides of the interface between industry and academia to look across it with renewed sympathy and understanding for the problems on the other side.

There are several dimensions to our institutional relationships. The one that is of most interest to your students is that we in industry will be providing many of the jobs that will be sought by them. We are all aware of the problems they face in finding jobs that are consistent with the education they have received, although the *N.Y. Times* report of a Phi Beta Kappa, summa cum laude college graduate, who had gone on to a Columbia Ph.D., a Fulbright scholarship and a Woodrow Wilson Fellowship, but whose present employment as a laborer in a pipe and steel supply yard has left him feeling either underutilized or overeducated, represents an extreme case. Certainly, however, there are problems. Thus, the hopes of many doctorals that they will be able to pursue an academic career are bound to remain unfulfilled, as indeed we could have told these students some years ago when they were beginning undergraduates. The clear message of the demographic evidence that was even then readily available was that the rapid expansion of the universities of the early sixties would have to terminate abruptly and that there would be relatively few opportunities for new faculty appointments in the seventies and eighties. And, despite the popularity of such professions as medicine and law, where self-employment has been traditional, we find that even in these the role of the institution as an employer is strong because the medical students often really want to do research rather than practice, and the law students often really want to work in government or other institutions, or perhaps will do so even if they don't have this in mind because there are far more of them than can be accommodated in private practice. Thus, as the growth of college and university faculties has essentially ended, the role of business and industry as an employer is once again perhaps the major one open for students in the graduate schools in science and engineering, and it is of growing importance in other fields.

It must be said, however, that changes are also occurring in business and industry. Importantly, the liberal arts and humanities education that formerly was considered a sufficient preparation for middle management jobs in business simply doesn't fit well today. We can agree on the intellectual and personal values to the individual of a liberal education, even as we note that unfortunately there is not necessarily a particular market value for a Liberal Arts degree.

As the employment opportunities for your students have rapidly altered in character, and as the students' career aspirations have also changed—and let us note that while students are very sensitive to dislocations in the job market, they are not equally good at making the appropriate anticipatory adjustments, especially if they receive inadequate advice—as these changes have occurred there is need for new emphasis on understanding the relationship between the ultimate careers of your students and the education they are receiving.

There is an understandable tendency when jobs are an issue to overlook other aspects of the natural interface between the universities and industry, but they are also important. The universities are concerned with knowledge, both in its generation and in teaching it to students. Just as we seek your students, as our employees of the future, so we also require the knowledge that you have the preliminary responsibility for creating. Nowhere is this more true than in science and technology, which conspicuously depend upon new knowledge for their progress. By and large the industrial research and development laboratories are concerned with the application of knowledge and for making the connection to the user, but they are keenly aware that this process depends critically upon the generation of new knowledge.

We might do well to ask ourselves early in this discussion whether science and engineering have a future. I think they do. The country today is already returning to the view that science and technology are essential to progress in solving the problems we all see. Up to about 1960 science and technology were viewed by society with a suitable mixture of favor, awe, and distaste, but there was little doubt that they were held to be the key to just about everything, both good and bad. The sixties saw a sharp swing toward societal matters that often seemed to have little to do with technology—problems of the cities, racial discrimination, student unrest, etc.—and it even became popular to say that science and technology created our problems. Now we seem to be back somewhere between these extremes, in a "sociotechnical" mode, if you like. Certainly many of the major societal problems of the day call for solutions that involve large amounts of new technology, as well as better political economic insights and concepts. Energy and materials resources shortages, the environment, health care, transportation systems, are typical of these. You in the universities and we in industry are both going to be heavily involved. Perhaps this recognition of the new emphasis to be placed on technology is sufficient to justify my talking to you mainly in terms of science and engineering in graduate education, rather than more broadly, although the real reason for my doing this is, of course, that it is what I know most about.

Let me undertake to give you first some measures of industrial research and development and to say something about its characteristics, so that we can then seek to relate it to graduate education. Industrial R & D has gone through several phases, but the most conspicuous of these were, first, the earlier focus on its effectiveness in the development of new products and services that would meet customers' needs, as expressed by their vote in the

marketplace, and, secondly and more recently, the reconciliation of these market objectives with various societal goals and constraints, many of which are expressed through a proliferating body of legislative and regulatory actions.

The mission of industrial research is to convert to application and usage, basic scientific knowledge, which is generated and cultivated mainly in the universities of the world, although at least the larger industrial laboratories participate also in this creation of the knowledge on which we depend. This coupling of basic knowledge with application is precisely the idea behind some of the more successful industrial research organizations you know about, and it has been the key element in our strategy from our first existence within our companies. As the needs for society have grown more complex, there have been major consequences for industrial research. Satisfying these needs involves us in a matrix of issues going well beyond the simple notion of "what will the public respond to in the marketplace." It has become necessary for industrial research to assess its activities in much broader social terms, in a responsible way.

There is also the matter of size. Increasingly, the needs of society are for solutions to large-scale sociotechnical problems, and these are met only by major efforts combining the knowledge and skills of people with a variety of talents, ranging all the way from the acquisition of basic knowledge to the final system design and application. In responding to these needs, only the larger institutions can readily assemble and coordinate the resources required for the system design and its delivery to the user, with all the various knowledge elements that are needed for this, filling in new basic knowledge wherever gaps are found. Thus we find a significant trend toward larger R & D laboratories, in industry as in certain major areas of federal involvement in applied research and technology.

These trends are well illustrated by National Science Foundation figures showing the concentration of industrial research, by industry grouping and by company. Thus, just four companies are responsible for 19% of all industrial funding of research and development. The first eight companies account for 34%, the first twenty for 54%, and the first three hundred for 91%. Only one in twenty-five companies doing manufacturing have an R & D activity, and in non-manufacturing industry, only one in 2,000 have any. In terms of people, 85% of all research and development people in industry are in firms with over 5,000 employees, as compared with just 70% only 15 years ago.

The concentration by industry group is equally striking. Seven industries* account for 85% of all industrially-funded research and development. If we lump together both industry-funded and Federally-funded R & D, 81% of the total is performed by just five industries.** Finally, 64% of all basic research in industry is accounted for by just two

*Electrical equipment and communications, chemicals, machinery, motor vehicles, aircraft and missiles, petroleum, instruments.

**Aircraft and missiles, electrical equipment and communications, chemicals, machinery, motor vehicles.

industries, chemicals/pharmaceuticals and electrical equipment/communications.

It is not, of course, that these companies and industries are doing too much research and development, but that the others are doing too little. Substantial portions of industry are underinvesting in research and development in the view of many of us, but until the rest of industry is persuaded that it is to their advantage to do more, this is the world we are dealing with.

Research and development in industry adds up to a huge total—$24B, almost $15B of which is supplied from industry's own funds. This $24B is to be compared with the total U.S. research and development of $34B.

That is the present, but you are at least as concerned with the future. Forecasts are notoriously slippery; as the Chinese proverb puts it, "Prophecy is extremely difficult, especially with respect to the future." One way out is to forecast the immediate future, as its outlines are already rather clear. The other is to forecast the year 2000, because by that time no one will remember what we said, or if they do, we won't be around to be held accountable. The Industrial Research Institute, an association representing most of the industrial research of the country, conducts an annual survey to see what industrial research leaders think about the following year. The survey is conducted in August, when research directors are still optimistic about their budgets, which they are then preparing and which are only cut later in the fall. What the IRI survey showed this year was an expectation for a small but significant increase in industrial R & D in 1976 as compared with 1975 (as a percentage of sales, so that this should reflect itself in modest hiring, although the increase in R & D personnel projected for 1976 is smaller than the increase forecast for 1975, in the 1974 survey). Interestingly, the ratio of Ph.D.'s to total professionals hired was expected to show no change, in contrast to the 1974 survey, which projected an increased number of Ph.D.'s in 1975. This mildly optimistic forecast seems to be confirmed by other surveys that have been carried out for the year ahead, as well as the modest economic upturn we are experiencing.

The current National Science Foundation projections for the utilization of doctorals in science, engineering, mathematics and the social sciences, for the years 1980 and 1985, continue to show a substantial excess of supply over demand, but there are reasons to doubt this, in certain fields at least. The main problem is that forecasts are usually an extrapolation of current events, and if there is one message we can learn from recent history, it is that the future can't be accurately predicted that way. Moreover, prophecies of this kind are somewhat self-defeating, because students react to supply-demand relationships. The projected oversupply of engineers, the largest for any field in the NSF survey, is the most suspect, being wrong already. Clearly the fields in which academic employment has been predominant will be those where an oversupply of doctorals is most likely. Engineering, for which academic employment is least important, will benefit from any improvements in the economy, as well as from Federal programs in such areas as energy. This is little evidence that the mix of Ph.D.s, Masters and Bachelors in industry will change much in the period ahead.

Abandoning the numbers game as unreliable and probably unrewarding, let us talk instead about the qualitative features of industrial research and development and how they relate to the graduate student's experience.

First we see the strong interest of industry in professionals. This is obviously true in research and development, for which graduate education is often regarded as a necessity for much of the senior staff. But here we even find that the junior technical staff is no longer composed just of technicians with no more than, say, technical institute training, but in fact includes also Bachelors or even Masters as junior professionals, for the more sophisticated requirements of computer programming, statistical work, chemical analysis, and other such functions. But even apart from research and development, the corporation's operations today have a degree of complexity that increasingly requires professionals, not only the graduates of business schools and law schools, but also other kinds of professionals, such as economists, operations research people, and others. As we noted earlier the Bachelor degree in liberal arts and the humanities may not any longer be the best preparation for corporate life.

This new emphasis on professional careers is of course even more prominent in your own institutions, which have seen a strong trend toward professional education; even at the undergraduate level this extends to as much as 50 to 60% of the students, and, of course, at the graduate level the fraction is still higher. The modern American university has been said to represent the third principal era in the university, after earlier eras in which it was first the repository of all that was known, seeking only to pass it along to later generations; then, later, it not only held and taught the knowledge but also added to it, through the creative research activities of its faculty. Now you have created the third kind of university, in which the new dimension is the teaching, not just of what a well-educated person should know, but also what must be learned in preparation for a particular career. The professional training provided by graduate education leads in many directions, but there is no doubt that industry has become increasingly aware of the values of the professional expertise that a specialist provides, to its affairs, and it will be hiring the professional, to an increasing degree.

Another characteristic of the corporate professional is the recognition that an interdisciplinary approach is often the most appropriate way to attack complex problems. "Interdisciplinary" is an overworked term, which is unfortunate because it is an accurate characterization of a mode of operation, or even a state of mind, that is usually quite essential to the solution of large, many-faceted problems. Research in the university can be quite purely disciplinary in character, and it almost always is. On the other hand it usually is not, in the industrial laboratory; and, indeed, the single most important new contribution industrial laboratories have made to the organization and conceptual processes of science is the interdisciplinary nature of their research and development. This is quite foreign to the nature of the universities, whose organization reflects the long-standing tenet that knowledge falls into certain well-defined compartments, and that autonomous university departments can devote themselves to these separate assemblages of knowledge. This has been quite adequate for most

of the period since universities were invented, given an occasional willingness to allow the birth of a new discipline somewhere between existing ones, for example biochemistry. Only very recently has this idea run into its first serious problems, with respect to research in the universities (much less difficulty is found in adapting curricula). The reason for this, of course, is that the world's problems don't necessarily fall neatly into these same immutable compartments. This is not news to you, nor is it to your students, or to the funding agencies in Washington. We now see messy problems like the environment, and urban mass transit, and energy, and health care, and each of these requires for its solution creative thinking and an infusion of knowledge from at least several disciplines. The organization of this cooperative thought on the campus is not something we will be able to solve here today, and I am sure all of you have experienced in your institutions the difficulty in matching a strictly disciplinary organization to research or interdisciplinary problems, even within the science, or science and engineering communities, let alone the cases for which the social sciences should also become a part. Given the autonomy of academic departments and of the individual professor, in research matters, interdisciplinary research has so far mainly not succeeded, in academic surroundings.

Now the point of this is that industrial research and development has represented quite the opposite situation. We continue to admire and encourage disciplinary excellence within our laboratories, but it is essential to our survival that we bring to bear on our technical ventures a variety of talents, which interact and fortify each other. It will be obvious to you that we must do this in large projects. But once you start ignoring disciplinary barriers it becomes easy, and we also find that a prevailing mode for the conduct of *basic* research involves collaborative effort between professionals, often not in the same discipline, or when they are, in different subdisciplines. I would estimate that over half the published basic research from my own institution is collaborative between professional authors; very infrequently is this the case for papers from the universities, as coauthored papers almost always involve just the group of students and postdoctorals associated with the faculty member.*

Thus we see a very different way of working in industry and in the university, one organized for the maximization of efficiency in assembling basic knowledge and accomplishing large tasks in science and its application, the other for encouraging individual creativity in the search for discrete units of knowledge, individually manageable. At least in the larger industrial laboratories there is room for the latter also, because we recognize the uniquely vital role of the creative individual and his insights into science. The challenge then is to give the graduate student an appreciation of the interdisciplinary nature of things, in an institutional framework that usually lets him see only the purely disciplinary side of

*An exception of sorts may be claimed for the high energy machines in some university physics departments, but even here the collaboration is usually for the facility, rather than the science done with it.

science and engineering. Even though the student may not choose a dissertation topic that requires this, there have been some ingenious curriculum experiments that are very promising in this regard.

This brings us to a closely related subject, one that is over-debated—does industry prefer the specialist or the generalist? Perhaps the reason the question is never resolved is that industry wants both, sometimes, somewhat unreasonably, in the same individual. A recent note on recruiting of chemists asserts that "chemical companies want specialists . . . [but not ones that] can work in a very limited area." Generally speaking, the large research establishment finds the greatest value in specialists, and this is why it tends to favor Ph.D.'s, but it requires specialists who will interact to reinforce each other's specialized contributions. Generalists will always emerge from among the specialists, in sufficient numbers. On the other hand, the smaller industrial laboratory will often prefer the generalist, as it may feel that it cannot afford specialists who may not readily shift interests as the company's needs change. For this reason it may see a disadvantage in the doctoral, as compared with the nonspecialized Master's or Bachelor's degree candidate.

A particular manifestation of the desire for breadth, in terms of the whole spectrum of activities in industrial research and development, is the need for an appreciation of economics as an additional constraint in the bringing of purely technical achievements to a successful conclusion. This of course increases sharply as one moves to the applications end of the technical spectrum.

Further characterizing research and development in industry, we have said that they represent the recognition of, and response to, opportunities to develop and apply science for useful purposes, and no one can ever be sure just where these opportunities will arise. Thus a degree of flexibility and open-mindedness about what will seem worthwhile to do next is typical. An attitude that life is to be spent learning more and more about a particularly narrow thing, getting to the very bottom of it if possible, a completely acceptable goal in the academic context, is less appropriate in most of industry.

Such people can be accommodated in our laboratories, but only if our total scope of interest always includes that thing. The very best research people, academic or industrial, characteristically may consider the possibility of making major shifts in their research interests occasionally. The graduate student who has learned to believe that only one kind of activity is worthwhile, that of course being whatever he does as a thesis topic, makes it substantially more difficult for himself to find an industrial research position that suits him, or to establish a rewarding research career of any kind, than it would be if he regarded his thesis, or his choice of a subfield within his discipline, only as a part of the education process. Industry is attracted by the candidate who expresses ideas about things to do that are beyond his direct experience.

One final characteristic of industrial research that calls for mention is that real problems often lend themselves only to approximate solution. Scientific and mathematical problems that cannot be solved completely and

analytically may be subject to approximate solutions that are of enormous utility. Industrial research often has to proceed on less than perfect understanding, and the problems it addresses face constraints in addition to those set by nature, for example, the economic one.

The distinguishing characteristics of industrial research say something to us about the nature of graduate education, since many of those who experience it will go on to industrial careers. They say, first, that attitude is often more important than the precise nature of the educational background. Matters such as interdisciplinarity, flexibility, and so on, reflect a state of mind; but it is one that is strongly influenced by the academic environment. The doctoral student's thesis professor is enormously influential in this respect.

There is another aspect of student attitudes. There is some truth in the idea that the academic stereotype believes that science (not engineering) in industry is inherently inferior. Sometimes it *is* inferior, but I would strongly challenge that this is inherent. Poor science is poor, independent of the institution. Science that ranks with the best in the universities can be, and is, done in some industrial laboratories. Moreover, no one should doubt the intellectual satisfaction of not only discovering new knowledge but also applying it in a useful way—it is at least as challenging to the creative mind. The distinguishing characteristics of industrial research do not in any degree imply a lesser challenge—if anything, it is even greater.

Quite apart from the intellectual quality of the industrial environment, many students fail to grasp the role of industry in our economic system and its function in bringing to the ultimate user the fruits of science. The pursuit of knowledge is satisfying, and so is its application for human progress. It is abundantly clear to us in industry that we make a primary contribution to the nation's welfare, but it is equally clear that the student seldom develops an appreciation of this, partly because few faculty have direct knowledge of industry, and partly because of occasional but highly visible failures on the part of some industry. We in industry and you in the universities both need to address ourselves to increasing students' awareness of the positive contributions to society they can make in industry.

It is a feature of both graduate and undergraduate education, in the sciences more than in engineering, that to an increasing degree students' aspirations will *not* follow the predilections of the faculty, who at this same stage in their own careers all chose the academic path. Particularly at the undergraduate level in the sciences, many students have some other career in mind than one of academic research after a doctoral degree, and it would be preferable to view their education in broader terms.

One of the constant readjustment processes that goes on in graduate school is the mix between Masters and Ph.D. students. At the risk of oversimplifying, a Ph.D. dropout in the sciences, who settles for a Master's degree, is not a particularly attractive prospect for industry, because the specialization of the doctoral has not been carried through to completion, but the process is underway. Not all science Masters are Ph.D. dropouts, but there are many. On the other hand, in engineering where the Ph.D. degree is less well embedded as part of the culture, the M.S. may well

indicate a superior, but canny student who doesn't want to price himself out of the market for industrial employment by going on for the Ph.D. Next year, however, the reasoning may be different. I would be uneasy about suggesting that you seek to control students' strategies, but I would suggest that there is a need for more attention by all of us to the matter of giving them appropriate guidance.

We must emphasize particularly those features of graduate education having to do with student attitudes and expectations because it is here, rather than in curricula or quality of research, that your greatest problems and opportunities may lie. It also seems that this is an area where industry can become a useful partner for you, as we seek jointly to provide better careers for your students and applications for your research. Too little effort has been devoted in recent years to intelligent dialogue between us.

The most direct way I know to increase an understanding on both sides of the industrial-academic interface is to spend more thoughtful effort on crossing it. In my own institution we devote a great deal of attention to this and it is most rewarding. A variety of methods are possible and perhaps I can mention some of these. Our leading scientists are often invited to spend time at a university, on a "reverse sabbatical," and we encourage this. For one thing, it puts them into a new and stimulating scientific environment for a while. For another, it is a demonstration to faculty and students alike that first class science can come from an industrial scientist, leading them to a greater appreciation of the quality of industrial research.

Equally, the sabbatical or a summer spent in our own laboratory by a university professor has allowed him to carry back to his campus and his students a sense of the purpose and challenge of the best of industrial research. The effects on him of this unique experience are likely to last for many years thereafter. Also, a number of outstanding scientists who hold appointments both in our laboratories and in major universities serve a similar purpose.

Students who experience an industrial laboratory environment, for a summer, say, may develop a completely new outlook on their career possibilities, and we have found value in this mode of interchange. Support of specific research programs in the university by industry, where the interaction is reasonably close but not so close that it undermines the traditional freedoms of university scientific inquiry are another way. We could identify still other kinds of interaction, but all serve a purpose in promoting understanding. None of these modes of interaction happens automatically—they all have to be worked at. But then, all good ideas eventually degenerate into a lot of hard work.

I seek particularly to emphasize this understanding, because the relationship between industry and the universities is a complementary one, with your mission in education and in the creation of new knowledge exactly complementing ours, as we supply the framework and resources for the people who are the product of your educational process to use the knowledge you and they are generating, in applications that benefit society. At no time has it been more essential to achieve a new level of cooperation between the two institutions that have, between them, the capability for

acquiring and applying basic knowledge. I am fully convinced, as I am sure you are also, that a firm knowledge base is the most essential single element for the progress our society aspires to; and as you examine your institutional capabilities for providing this, it is up to us in industry to encourage and reinforce you.

J. Chester McKee, Jr.

Our next speaker is a former graduate dean and quite a distinguished scholar in his own right. He now serves as President of the American Council of Learned Societies. Dr. Lumiansky received his B.A. from the Citadel, his M.A. from the University of Southern California, and his Ph.D. at the University of North Carolina.

He taught English in high school; and after receiving his doctorate began a very distinguished career at Tulane University, where he became head of the English department. He served as Dean of the Graduate School at Tulane University from 1954 to 1963 and as Provost of the University from 1960 to 1963. At that time, he left Tulane where he was associated with the University of Washington, the University of Illinois, Duke University, and the University of Pennsylvania. At the University of Pennsylvania he was Professor and Chairman of the English department until some eighteen months ago when he became the President of the American Council of Learned Societies.

Dr. Lumiansky has a distinguished record of military service, as one might suspect of a graduate from the Citadel. His distinguished academic relationships include serving as a member of the Woodrow Wilson Fellowship Selection Committee, a member of the National Council for Humanities, and many other numerous honors. He is also the author of many publications and books.

It is with great pleasure that I introduce to all of you a former graduate dean, Dr. Robert Lumiansky.

Robert M. Lumiansky

A good many years ago, when I was Graduate Dean at Tulane University, I had the privilege of being closely involved in the founding of your organization. I particularly remember a meeting in Lincoln, Nebraska, when four members of the Executive Committee of the Association of Graduate Schools met to prepare a proposed constitution for the organization we hoped to found. The other three were John Weaver, Peter Elder, and Alex Heard, then graduate deans at Nebraska, Harvard, and Chapel Hill, respectively. To judge from your presence here today, our efforts were worthwhile, and I am both honored and pleased to be with you.

In fairness, I should make immediately clear that my comments here

are going to be almost completely at variance with the intentions of those who planned the program for this meeting. In the first place, the stated subject for this panel is "Employment and Its Implications for Graduate Education"; but I am more concerned about the implications of "Unemployment." Second, the general topic for your meeting is "Adaptation of Higher Education Institutions to New Clientele"; but I am at least equally concerned about "Old Clientele." Third, my remarks will deal primarily with the Ph.D. situation; but many of you are more directly involved with Master's degrees. My hope is that in what will follow reasonable justification for my arrant lack of cooperation with your planners will emerge.

Let me add more preliminary consideration. The organization of which I am President—The American Council of Learned Societies—came into being fifty-six years ago with two stated purposes: first, "the advancement of humanistic studies in all fields of learning"; and, second, "the maintenance and strengthening of relations among the national societies devoted to such studies." For working purposes, we deal with the Humanities and the humanistic aspects of the Social Sciences—the fields covered by our forty-one constituent national societies—and the analysis which follows will be applicable to those fields. About the present situation in the sciences and technologies, I know very little. But, given the mission of the ACLS, I must be steadily concerned with the question "What will be the state of humanistic scholarship and teaching fifteen or twenty years from now?"—a question also of importance, I would think, to any graduate dean.

After over two decades of tremendous growth and relatively lush times, graduate education has in the past several years encountered great difficulties. On the one hand we have seen sharp reduction in financial support of all kinds, and on the other extreme scarcity in most fields of jobs for the products of graduate education. That the situation will soon improve seems unlikely. Many meetings have been held and many more will no doubt be held in the future to discuss what should be done in the face of these changed conditions. Perhaps the most extensive effort of the sort to date has been the deliberations over the past five years of the National Board on Graduate Education, in the work of which I had opportunity to participate. As you know, that Board has issued a number of occasional reports, and its comprehensive final report will soon appear.

Many of the discussions of the present situation for graduate education in the Humanities sound about as follows: First, traditionally almost all the products of graduate education in the Humanities have found employment in educational institutions; second, now and surely for the next decade or two such jobs will be very scarce; third, the number of persons earning graduate degrees should be reduced; fourth, innovative curricular patterns for graduate degrees should be developed; and, fifth, other career opportunities than teaching for those who do earn graduate degrees must be found. In sum, we are told that the marked change in the times calls for drastic changes in graduate education.

Such a line of reasoning—I submit—should be viewed with considerable

alarm by anyone concerned with the question I raised a few minutes ago: "What will be the state of humanistic scholarship and teaching fifteen or twenty years from now?" In the first place, the necessary preparation for effective scholarly work in the humanistic fields does not allow much room for innovative curricular patterns. For example, the young men and women presently in graduate school with the intention of earning Ph.D.'s in some aspect of medieval studies need fundamentally the same curricular preparation that the best practicing medieval scholars enjoyed. They need to learn as much as they can about the history, literature, philosophy, theology, etc. of Western Europe and the Mediterranean area from 500 to 1500. They need to learn to read the manuscripts from the period. They need to learn medieval latin and as many of the national languages as they can. They need to learn how to use research libraries and special archives. And they need to learn how to reason and to write in the best scholarly fashion. There may well be better ways of teaching these matters than some we have used in the past; but any shifting away from the necessary subjects will weaken the young scholars' preparation. I believe that the same basic situation exists for the other humanistic fields.

In the second place, I am concerned that our current stress upon finding "alternative career-patterns"—that is, careers not in academia—may lead us to neglect the need for maintaining and strengthening the selection and preparation for those Ph.D. students in the humanities who will go into academia. There are now and, of course, will continue to be some openings in the colleges and universities. That the persons who fill those openings should be of the highest quality the graduate schools can provide is obviously crucial for the future of humanistic scholarship.

As a final segment of my remarks here, I want to comment upon various aspects of the current situation with regard to the process of selecting, preparing, placing, holding, and furthering outstanding men and women in careers as humanistic scholars. I will begin at the far end of the spectrum, with the circumstances for established scholars. For such persons we now have available through the National Endowment for the Humanities, the Guggenheim Foundation, the American Philosophical Society, and the American Council of Learned Societies an adequate number of research fellowships and grants-in-aid. I am not saying that each year every deserving application from tenured professors for a research fellowship or grant-in-aid can be funded; I am saying that we have managed to arrange a sufficiently high level for this kind of support so that anyone in part responsible for the present and future state of humanistic scholarship can relax, at least temporarily, about this matter.

But when we move down to the next crucial stage—tenure for outstanding assistant professors—we are in trouble. Financial strain is causing reduction of numbers of faculty members, and tenured posts which are vacated because of regular or early retirement, or for other reasons, are simply not being filled. The Mellon Foundation has made a number of grants to enable several leading universities to grant tenure for outstanding assistant professors in the Humanities, but the problem is still bothersome because jobs in other institutions are not easily available for these six-year

people. Consequently, the profession may lose some valuable persons.

The next consideration has to do with those persons who have recently completed the Ph.D. degree. For working purposes, I assume—rightly or wrongly—that the best Ph.D. graduates are still finding academic posts; but in many instances their circumstances are less than ideal for scholarly development: library resources may be limited, teaching loads and committee work may be heavy, etc. The great need, if these promising scholars are to develop, is for research materials and time to do scholarly work. In response to that need, ACLS is establishing research fellowship and grant-in-aid programs for persons not more than three years beyond receipt of the Ph.D. We do not have as much money for this purpose as we would like, but we believe that what we have will serve a helpful purpose in enabling the recipients to push ahead with their scholarly work.

The earliest stage in the process we are considering has to do with attracting to the graduate humanistic departments a reasonable number of the ablest students. A major factor toward that end is of course fellowships for graduate study. There is, however, no national program for such fellowships at present. The National Board on Graduate Education, in its *Federal Policy Alternatives Toward Graduate Education*, recommended the establishment of such a program by the National Endowment for the Humanities. But as yet nothing has happened. NEH's establishing a program of graduate fellowships would have symbolic as well as substantive value. As a final sentence, I invite your help in trying to bring about that program.

Thank you.

Second Plenary Session

Tuesday, December 2, 1975, 9:00 a.m.-10:45 a.m.

FOREIGN GRADUATE STUDENTS IN THE UNITED STATES

Chairman: S. D. Shirley Spragg, University of Rochester
Sanford C. Jameson, *College Entrance Examinations Board*
Richard Armitage, *The Ohio State University*
General Leonard F. Chapman, Jr.,
U.S. Immigration and Naturalization Service

S. D. Shirley Spragg

Our session this morning is concerned with the topic, Foreign Graduate Students in the United States. I shall begin with some brief comments about foreign students in this country, then would like to mention some of the ways in which the CGS is involved with foreign students and with international education in general.

Following that I shall call on Sandy Jameson and Dick Armitage to describe certain projects and activities which have considerable importance for potential graduate students from other countries, activities about which we believe graduate deans will wish to be brought up to date. At that point we'll invite discussion of those two presentations.

We shall then have the pleasure of hearing from General Chapman, United State Commissioner of Immigration and Naturalization, and there will be opportunity for questions and discussion following his address.

First a few general comments to remind you of the size and nature of this group of students. According to *Open Doors*, the annual statistical summary prepared by the Institute of International Education, there were estimated to be 151,000 foreign students enrolled in U.S. colleges and universities in 1973-74, the largest number so far. This does not include those foreign students enrolled in secondary schools, trade schools, etc.

Although the total number represents a new high, the annual rate of increase, 4%, continues a trend of diminished growth, down from annual growth rates of over 11% in the 1960s. What increase there is is accounted for almost completely by students from the Near and Middle East, South America, and Africa. The numbers of students from Europe and Canada have been decreasing steadily for several years.

By fields, the largest proportions of foreign students are found in engineering (21%), humanities (17%), physical and life sciences (13%), business administration (13%), and social sciences (11%). Of the 151,000 students, somewhat over 40% were classified as graduate students or, more precisely, as post-baccalaureate students.

The Council of Graduate Schools has from its beginning been actively involved with international education, due in part to the strong interests of

our first president, Dr. Gustave O. Arlt, and vigorously continued and expanded by our present president, Dr. J. Boyd Page.

I should like to describe briefly some of the activities in this area with which CGS has been involved because I have a feeling that the variety and extent of CGS involvement may not be well known to many of the CGS member deans.

One such activity is the National Liaison Committee on Foreign Student Admissions. CGS is one of five national organizations which constitute this committee. Boyd Page and I are the CGS representatives on the committee and I am presently serving a two-year term as its chairman. Sandy Jameson in his presentation will be describing several of the NLC activities and projects so I'll say no more about this activity.

A second area in which CGS has been active and has exerted significant leadership is the African Graduate Fellowship (AFGRAD) program of the African-American Institute. This was born in 1963, with Dr. Arlt and Dr. William Gaines, then with AAI, as the principal mid-wives. The program developed steadily and has become what I confidently believe to be the most successful foreign fellowship program of its kind, i.e., one devoted to the purposive advanced education of students who then return home and contribute to their country's development as members of university faculties, as administrative and professional staff of ministries, and in various research and educational organizations. The completion rate for this program (attaining the degree for which the fellowship was entered) is 92%, a most impressive rate for any program, foreign or domestic. And, further, the return rate (repatriation) is over 90%, again an outstanding record for a foreign student fellowship program.

From its beginning the policies for the AFGRAD program have been set, and the final selection of fellows has been made, by an AFGRAD deans' executive committee, whose members are appointed by AAI with the advice of CGS. It has been my pleasure and privilege to have served on this committee since its early days, and several of you present today have served or are serving on it. Each year one or two of the deans on the committee has made a trip to Africa in the late fall on behalf of the program—to sit with the country nomination committees, and to confer with officials in the ministries and the universities about the program.

Turning to another activity, the president of CGS and one or more of the CGS deans regularly sit as members of an advisory committee to the Institute of International Education, to counsel IIE with respect to its foreign student and fellowship programs. At present Boyd Page is chairman of this committee.

Another example: there is a National Council on the Evaluation of Foreign Student Credentials, which attempts to bring some order into this complex and potentially confusing field. CGS is one of the national organizations comprising this Council, and its representative is Dean Andy Hein of the University of Minnesota.

The National Association for Foreign Student Affairs held its annual conference in Washington last May, with CGS as a co-sponsor of the conference, and Boyd Page was a consultant to the program committee. I

should also mention that Sandy Jameson is at present the president of NAFSA.

Which brings me more directly to Dr. Page, whom I have mentioned several times in this account. Through his interests, his responsibilities, and his opportunities, he has been deeply involved with international education and has made many significant contributions to it. He has participated in several of the overseas workshops for the advisors of potential students (which Sandy Jameson will shortly be telling you about), he is often called upon by the State Department or other agencies to meet with foreign educators, or to participate in panel sessions dealing with problems relating to foreign students or foreign scholars.

In sum, I believe that CGS has not only an active but a distinguished record of involvement with foreign student and international education affairs. Thanks to the leadership of its two presidents, and the many contributions of its member deans, CGS is a respected and widely used resource in international education—by our own government and by foreign governments and universities.

Sanford C. Jameson

The National Liaison Committee on foreign student admissions is a cooperative, inter-associational group composed of American Association of Collegiate Registrars and Admissions Officers (AACRAO), Institute of International Education (IIE), College Entrance Examination Board (CEEB), Council of Graduate Schools (CGS), and National Association for Foreign Student Affairs (NAFSA). These associations have been working together for over ten years on a variety of projects and activities for their mutual benefit. One of the early activities of the National Liaison Committee was a colloquium on the university, government and the foreign graduate student. Subsequent colloquiums have been held on the foreign graduate student: Priorities for Research and Action, and The Foreign Undergraduate Student: Institutional Priorities for Action. These colloquiums were held at Wingspread, the Johnson Foundation conference center in Racine, Wisconsin, and funded by both the foundation and the Bureau of Educational and Cultural Affairs of the U.S. Department of State (CU). It has been the committee's goal that these reports contribute to some of the more thoughtful literature in the field on international education exchange. The National Liaison Committee is composed of two representatives of each of the five associations. The current representation from the Council of Graduate Schools includes Boyd Page and Shirley Spragg. The chairmanship of the committee rotates through the member organizations every two years. Shirley Spragg is the current Chairman, and I serve as the Secretary to the Committee, having served as the immediate past chairman.

The committee has pursued a number of programs and projects for the benefit of the constituencies served by these associations. By far the most ambitious project has been the Overseas Workshops and Consultations

Project, which is operated in cooperation with the Bureau of Education and Cultural Affairs of the U.S. Department of State (CU). The main purpose of this project is to provide accurate, up-to-date information about American higher education at both the undergraduate and graduate levels with emphasis on admissions, financial aid, and student advising. This program serves as an in-service training program for a variety of people over the world who deal directly or indirectly with the prospective foreign student, such as personnel of bi-national center, Fullbright Commissions, USIS Posts, American embassies and private agencies such as AAI, IIE, and the American Friends of the Middle East. In addition, an extremely important aspect of the project is the development of a dialogue with foreign educators and ministries of education regarding mutual interests and concerns relating to international educational exchange. The week-long intensive workshops have been followed by country consultation visits by members of the workshop faculty to those countries who have participated in a particular regional program.

These regional workshops commenced in February of 1971 with a workshop in Bangkok serving the Southeast Asian countries. During the next few years similar week long workshops followed by country consultations were held in Lima, Peru; Mexico City, Mexico; London, England; Belgrade, Yugoslavia; Nairobi, Kenya; and in Tehran, Iran, in July of 1974, which completed a series of programs spanning most of the free world. The first cycle of workshops was extremely well received by those participating, and a number of positive actions have come from these programs.

In consultation with the Department of State, the NLC decided to pursue the workshop concept in the second cycle which was inaugurated in Kuala Lumpur, Malaysia, in June of 1975. The second cycle of workshops consists of a three-day intensive program similar to the five-day program, but the number of countries involved in the second cycle of programs is smaller; thus, the workshop participants number roughly half those involved in the first cycle. The smaller number of countries also allows the faculty of the workshop to spend a longer time on the country consultation phase. This evolution of the workshop and consultation program stemmed directly from the evaluations of these programs over the past few years. We are planning a second program in this cycle in the Spring of 1976, with a workshop in Colombo, Sri Lanka, which will serve the sub-continent of South Asia.

This project has been governed by an advisory committee or subcommittee of the NLC. The six-member advisory committee has included Boyd Page, one of the officers of IIE, two experienced admissions officers, a foreign student advisor, and myself as project director. The faculties and resource persons of the workshops have typically included graduate school deans, foreign student advisors, admissions officers, and myself as project director. Those who have a past or present relationship with the Council of Graduate Schools who have participated on this project have included George Springer, Wade Ellis, Shirley Spragg, J. Boyd Page, Charles Lester, Michael Pelzar and Lorene Rogers.

I think I can speak for the other members of the NLC when I say that this has been an extremely rewarding project for all of us who have been involved. We sincerely feel that this program has had a strong impact on those overseas dealing with prospective students, helping them to better understand American higher education in the current era; and thus better advise the students who wish to study here, encouraging some and discouraging others. Another encouraging aspect is that this is truly a cooperative project between the Bureau of Educational and Cultural Affairs of the Department of State and these five prominent educational associations. There is every reason to believe that the overseas workshops and consultations project will continue in the future. Please note the table that summarizes the project from its beginning in February 1971. Reports of the overseas workshop and consultations project are available through Boyd Page's office or mine.

Another interesting project of the NLC is the regional credentials evaluations project, less dramatic perhaps but no less effective in its impact. This project is organized on a regional basis dividing the country into four separate regions. There is a volunteer regional coordinator and a whole series of individuals with some expertise on various systems of education over the world who have a pragmatic admission and credential evaluation point of view. This program is available to institutions that have less than 100 foreign students. The rationale is that institutions with more than 100 foreign students should be encouraged to develop their own staff expertise to evaluate foreign credentials at the undergraduate and graduate levels. However, many institutions with smaller numbers of foreign students would probably never find it practical to maintain this expertise on the staff and will need from time to time the assistance of others in evaluating specific credentials. This project also has an advisory committee which is currently chaired by Shirley Spragg and meets periodically to evaluate and generally govern the project.

Since the National Liaison Committee is not incorporated, it cannot enter into contractual relationships with the U.S. Government. Consequently, one of the member organizations serves as contractor for a specific project. The College Board is the contractor for the NLC overseas workshops and consultations project, and NAFSA serves as the contractor for the foreign credentials evaluation project. This project is also funded by CU and works on a small budget, inasmuch as, it is primarily a volunteer program, providing a mechanism whereby professional colleagues assist each other on a regional basis.

The third activity I wish to mention briefly is a developing project of the NLC called "An Information Clearinghouse." This is a descriptive, working title of a pilot project now being developed that will provide, if the project is feasible, a data bank of information regarding undergraduate and graduate educational programs in the United States that are available to foreign nationals. The present thinking of the task force developing this pilot project is to provide a retrieval system for students and advisors overseas who could access computerized information via questionnaires to assist a prospective student searching for institutions and programs of study

to fit his or her needs. Also, a number of other criteria would be included in the data such as financial assistance, requirement of language proficiency, region of the country, size of the institution, etc. Interestingly enough this project has grown directly out of recommendations stemming from the overseas workshops and consultations project and has sparked the interest of a number of us who have worked closely with NLC activities and the general field of international education over the last few years. As you can see from this brief description, this is quite an ambitious project and may turn out to be impractical to operate or fiscally prohibitive. However, the technology is available.

I could go into much more detail on any of these activities, as I am sure you can see. However, I hope I have been able to give you a brief overview of some very interesting projects with which CGS has been directly involved.

The following table summarizes the NLC Overseas Workshops and Consultations Project thus far:

	Number of Countries Involved in Workshop	Number of Participants at Workshop	Number of Countries Receiving Consultant	Approximate No. of Persons Met during Visits	Number of American Educators Involved
FIVE-DAY WORKSHOP					
South Asia and Southeast Asia (Bangkok)	9	61	9	225	7
South America (Lima)	10	56	7	223	7
Central America Caribbean (Mexico City)	16	61	10	189	7
Far East (2-man team)	—	—	5	168	2
Northern Europe (London)	14	68	2	37	8
Southern Europe (Belgrade)	12	52	4	169	8
Africa Subsahara (Nairobi)	25	61	10	158	8
North Africa Middle East (Tehran)	14	54	9	346	7
THREE-DAY WORKSHOP					
Southeast Asia (Kuala Lumpur)	8	38	5	101	5
FOLLOW-UP VISITS					
Germany	—	—	1	111	1
Africa			14	247	4

Selection Procedures & Criteria

Richard Armitage

In the time allotted me by our distinguished chairman, I shall be talking mainly about the process of selecting foreign graduate students with particular emphasis on the use of the Test of English as a Foreign Language (TOEFL) for measuring readiness to comprehend the written and spoken language.

The question of which applicants from abroad should be granted admission and/or financial aid will, of course, be decided on each campus either by individual departments, the graduate school, or both. Indeed the variety of procedures and entrance criteria is so great among our institutions that cultural affairs officers in our diplomatic outposts of the world are frequently as confused as foreign nationals in seeking information about graduate study in the United States. In recent years, the annual publication of the *Graduate Programs and Admission Manual* has helped close the information gap in those centers abroad where the current edition is available. The College Entrance Examination Board, the American Association of Collegiate Registrars and Admission Officers (AACRAO) and the U.S. Department of State have jointly sponsored informative seminars in key centers abroad and these have proved helpful. The Institute of International Education (IIE), through its strategically located foreign centers and connections with bi-national Fulbright commissions also spreads information about programs and requirements for graduate admission. Anyone who has traveled abroad, however, and talked with counselors and students must have become aware of the continuing need for the fullest possible communication of the basis of our system, its variety and its puzzling complexity to thousands of potential candidates abroad. If optimum selectivity means matching the applicant with the most appropriate department and university, then it follows that the process must be based on a dependable worldwide network of accurate and up-to-date information. I would encourage the Council of Graduate Schools and its members to continue their support of improvements in the operation of this vital network.

What about the process of selection on our own campuses? Five years ago the College Entrance Examination Board published the results of a national colloquium entitled *The Foreign Graduate Student: Priorities for Research and Action*. The first two recommendations of that report stress that:

1. Each university should develop an explicit rationale for the admission of foreign students and prepare itself for closer scrutiny by boards of trustees or regents, as well as by state and other funding agencies, as to why these students are being admitted and supported. This rationale is intended basically for internal comprehension and planning in the first instance, and eventually for the formulation of the national policy referred to in Recommendation 2.

2. There is need for a long-range national policy on international exchange of graduate students to which individual institutions and graduate schools can relate their own policies. Clearly, such an expression of policy ought to be arrived at in consultation between academic institutions and the government.

Now it seems to me that these needs continue to exist today and that each CGS university which has not done so should take immediate steps to

clarify and justify its own policy before state boards or legislators raise questions on their own. One suspects at times that some departments in some state-supported institutions actually use the backlog of foreign applicants to "top off the tank" of graduate admissions in order to meet "full-time equivalent" student enrollment goals, which, in turn, justify continuation of financial support for expensive doctoral programs. Given the steady tendency to escalate state "tariff" barriers by increasing non-resident tuition surcharges, one can predict that agencies of state governments will soon question the need to support doctoral offerings in departments which regularly attract large numbers of foreign applicants with very few applicants from within the state or even from other corners of North America. Whether we are deliberately encouraging foreign applicants or not, however, we need to know the facts and must be prepared to justify foreign student enrollment by relating it to institutional, state and national goals. This is, particularly if foreign students are supported by institutional fellowships, assistantships or fee waivers of some sort.

In regard to the second recommendation of the report, my own experience leads me to believe that graduate student admission practices on our campuses should be tied in some way to national priorities in foreign policy. This is particularly true as we select students from the many countries of Latin America, Asia, Africa, and the Middle East. We should insist, for example, on more effective and complete bi-national involvement in selection of candidates from the so-called "developing countries" so that the interests of those nations might better be served and more effective screening be accomplished in the candidates' home territory where the applicants qualifications and national manpower priorities are certainly better known than in our own offices. The AFGRAD, LASPAU, and Fulbright programs, although different in purpose and criteria applied, offer, nevertheless, examples of bi-national selection which work in most cases and might be expanded or copied in the future. Certainly students chosen with their own national manpower needs in mind are better motivated and much less apt to end up in the so-called "brain drain" group of graduates who remain in the United States for the rest of their lives.

Foreign student selection affects most graduate deans directly as they cope with a steady stream of faculty complaints about language difficulties. Students are unable to understand lectures, keep up with reading assignments or write examinations and term papers. Schedule changes result in reduced loads and postponement of key courses. The whole irritating process is unpleasant for the student, faculty, and of course, for the dean and his staff.

Ten years ago, the TOEFL program was established by the Educational Testing Service at the request of graduate deans and university admission officers. The TOEFL program is now controlled by its own policy council on which three graduate deans serve as representatives of the GRE board. The President of CGS is an ex-officio member. The TOEFL test was taken by more than 90,000 students throughout the world last year.

It is my responsibility to inform you that the format of this test will be changed next year from five to three parts thus shortening from 140

minutes to 120 minutes the time required for completion. Research has demonstrated a very high correlation between scores on certain sections of the test. In addition, it was found that certain new techniques yielded better results in less time than the old. The new and improved test is scheduled for use in September, 1976. Only three scores will be reported: (1) Listening Comprehension, (2) Structure and Written Expression, and (3) Reading Comprehension and Vocabulary. Although there are many requests for an additional test of language "production," i.e., pronunciation and oral fluency, the TOEFL policy council is persuaded that development of a massive program is not feasible at this time because test control is difficult and administrative costs would be extremely high. However, such tests are available and research will continue on the feasibility of their use in the TOEFL program.

In this regard, it should be noted that at their meeting last month the council created a standing committee on research with preponderant membership selected from the nation's specialists in teaching English to speakers of other languages. Future trends will thus be monitored by our faculty colleagues in the discipline. As a consequence, we anticipate a decrease in dissatisfaction with TOEFL on most campuses together with steady improvement in the reliability and validity of the test itself.

My own view is that the TOEFL exam, imperfect as it may be, should be required for admission to graduate school and that the graduate school itself should monitor the requirement. Experience shows that postponement of admission pending improvement of English language skills is preferable to failure or unanticipated delays resulting from language deficiencies. Academic failure is a traumatic experience for most foreigners, and delay in graduation is a particularly gnawing frustration as we all know. Predicting success of many foreign applicants is difficult at best without taking chances on language proficiency. The graduate dean should insist on proof of minimal English language skills no matter what the pressure. Remedial instruction is exceedingly expensive on our campuses and thesis writing proves burdensome to faculty advisors and ultimately wasteful of editorial blue pencils!

To recapitulate, I have touched on the need for each university to study carefully its own policy regarding the admission of foreign graduate students, for development of a national policy and commitment to graduate education for selected foreign nationals, for more bi-national participation in setting priorities and selecting potentially successful graduate students, for ascertaining levels of language competency before notice of admission is mailed to applicants. Finally, I have encouraged graduate deans to exercise leadership in development of institutional policies in those universities which do not yet have one.

Experience will probably show once again that the best and most selective departments are those least in need of study or establishment of foreign student quotas. Weak and marginal departments, on the other hand, will need monitoring and direction in foreign-student affairs as in other matters affecting the general quality and goals and, indeed, the good name of the university as a whole.

Lest there be any misunderstanding, however, let us reaffirm our

conviction that a university without foreign students risks becoming so monocultural in its orientation as to be like a tower without windows. We *do* need foreign students on our campuses, but we and they need to know clearly what they are there for.

General Leonard F. Chapman, Jr.

Good morning ladies and gentlemen. I am pleased to have this opportunity to participate in the Fifteenth Annual Meeting of the Council of Graduate Schools of the United States and to take part in this program on foreign students.

Over the years there has been a close working relationship between the Immigration and Naturalization Service and organizations interested in the welfare of foreign students in the United States. I assure you that we in INS will continue to work to maintain this good relationship, which I believe is of mutual benefit and is also to the benefit of the foreign student.

Provisions permitting foreign students to come to this country to pursue an education have been a part of the immigration laws for many years. And the number entering as students continues to grow. From just 10,000 foreign students entering in 1950, the total has grown to well over 100,000 annually.

I believe this is a good provision in the law, and if administered properly can have benefits for the United States and other nations as well. However, it is extremely important that the foreign student program be maintained as prescribed by law and in the manner and spirit which Congress intended.

The law defined the "F" student as follows: "An alien having a residence in a foreign country, which he has no intention of abandoning, who is a bona fide student qualified to pursue a full course of study, and who seeks to enter the United States temporarily and solely for the purpose of pursuing such a course of study at an established institution of learning or other recognized place of study in the United States . . ."

There are four qualifying elements in that statement, which define the requirements for an alien to enter the United States to pursue an education. I will repeat those:

1. It states, he has a resident abroad which he does not intend to abandon, and it further states he enters this country temporarily;

2. It states he is a bona fide and qualified student;

3. It states he will pursue a full course of study while in this country; and

4. It permits an alien to enter solely for the purpose of pursuing his studies.

I think these provisions are entirely reasonable and fair. With the limitations defined, there is no reason why this country should not provide the opportunity for qualified students from other countries to come here, learn what we have to teach them, and return to their own nations with knowledge that will enable them to contribute to their society and make a good living for themselves. And, hopefully with an enhanced view and opinion of the United States.

All of these qualifications are made known to the alien before he is granted his "F" visa to enter the United States. Before a visa is issued, the student must complete the Certificate of Eligibility (Form I-20) furnished by the school accepting him. In the form he must certify that he is seeking to enter the country temporarily and solely for the purpose of pursuing a full course of study. He must also certify that he is financially able to support himself for the period of his stay in the country.

The student further acknowledges that he may attend only the school specified in the I-20, and in the visa if one is required of him, and that he may not transfer to another school without first obtaining INS permission to do so. He also acknowledges the restriction that he is not to work off-campus or engage in business while in the United States unless permission to do so is granted by the Immigration Service.

And, finally, he understands that he must depart from the United States immediately if he does not abide by the conditions of his entry.

I know that many of you are aware of the program requirements and have an important role in administering the program. As I said, it is a sound and worthwhile program. Like almost any such effort, though, it is not without its problems.

One of the problems lies in the lack of adequate capability on the part of INS to oversee the foreign student entries as we believe we should. So that you, who are especially interested in this one portion of the Immigration Service's responsibility, may see how it fits in with the rest of our duties, I would like to take a few minutes to review the overall INS operations. Over the past decade we have experienced a great growth in workload, with very little increase in resources with which to perform these expanded chores.

One of our major responsibilities is the inspection of persons entering the United States to determine their eligibility. Last fiscal year nearly 260 million persons were inspected, which was a 39 percent increase over ten years earlier. Over three-quarters of a million persons—790,232—were denied entry. That was a 49 percent increase over the preceding year and reflected our efforts to improve our inspections in order to deter potential violators before they were admitted to the country.

The Immigration Service also adjudicates applications and petitions for benefits of more than 25 different types. These are of varying complexity and some require considerable information on which to base a decision. Factors such as agency checks, interviews and investigations affect the time necessary for a prudent adjudication, although we believe that as a goal the maximum time required to dispose of any adjudicative matter should be three months. I am certain you are thinking of situations with which you

may have been involved that required longer. Unfortunately, that is often true. However, on the other side of the coin, it is also true that frequently adjudications are made despite the lack of time to gather all the information that should enter into the decision.

Last fiscal year the Immigration Service received nearly 1.5 million such applications and petitions for adjudication, about a 74 percent increase over receipts ten years ago. At the end of last year, our adjudications backlog was 181,000 which was 17 percent higher than it was at the end of the preceding year.

One of our top priorities is to reduce this backlog and eliminate the long delays in adjudications. We hope to do so without sacrificing the quality, and, if possible, even to improve it.

Naturalization of new citizens is another of our duties. Last year there were 141,537 aliens who became naturalized American citizens; this was a 19-year high and an increase of 37 percent over ten years ago. The number of applications pending at year end stood at 61,488, a 29 percent increase over the preceding year.

Records-keeping is one of our biggest jobs and biggest headaches. At the end of fiscal 1975 our field offices had 7.6 million active files; we received more than eight million inquiries and we opened nearly 519,000 new files. Our files problem, which we are beginning to solve through automation, has been one of the causes for delays in adjudications. Adjudicators have had to wait an average of three weeks to receive a file from another office, and delays of up to three months have not been uncommon.

In addition to the service reponsibilities of INS, we are also charged with enforcement of the immigration law. We have two units responsible for this area. The Border Patrol is our nation's principal uniformed force guarding our land borders. Some 1,800 agents are responsible for patrolling 1,900 miles of the southwest border plus nearly 4,000 miles of Canadian border. Last year, the Border Patrol apprehended 596,000 aliens who were either attempting or had already effected illegal entry to the United States. That was more than 77 percent of the nearly 760,000 illegal aliens all Service officers apprehended in fiscal year 1975.

Our other law enforcement unit is the Investigation force. We have about 900 investigators who are responsible for enforcing immigration laws throughout the interior of the nation, including all the major cities, which are teeming with illegal aliens.

That, of course, is the major problem which the Immigration Service and the nation are facing. We estimate that there are eight million illegal aliens in this country. And the number is growing. The situation is completely out of control, and it is well beyond the capability of the Immigration Service to cope with it.

The impact of this problem upon our country, especially in this time of economic stress, is almost unimaginable. Several billions of dollars in wages are earned by those illegally here, while more than eight million citizens and legal resident aliens are without jobs. Much of the money earned by illegal aliens is sent out of the country.

Often this money is virtually untaxed, because the illegal claims enough dependents to avoid having taxes withheld. These millions of persons are using public services, including schools, food stamps, medical care and even welfare, without paying their fair share of the cost.

And, despite popular misconception, this is not simply a matter of Mexican nationals working in agriculture in the Southwest, or holding menial jobs that no American will accept. At least half or more of the illegal aliens in this country who are in the metropolitan area and holding well paying jobs are not Mexican.

We make apprehensions every week such as the following examples, which are typical: a Greek plumber making $12 an hour, a Jamaican carpenter making $7 an hour; a Japanese office worker making $4 an hour; a West Indian lab technician making $6.80 an hour and a West Indian electronics engineer making $17,000 a year.

And even in the lesser paid jobs of $2.50 an hour or below, it should be noted that unemployment among young people is about 20 percent. Among ghetto youth, it may run as high as 60 percent. So even those illegal aliens holding jobs at the low end of the pay scale are doing so at the expense of an American or a legal resident alien—perhaps a student who needs the money to continue school.

In addition to our regular responsibilities, which are virtually overwhelming us, INS this year assumed the responsibility of processing thousands of persons fleeing from South Vietnam and Cambodia. About 90 officers were taken from their regular assignments and moved to Guam and Wake Island to handle the immigration clearance at the staging centers there; an additional 260 performed similar work at Camp Pendleton, California, Fort Chaffee, Arkansas, Eglin Air Force Base, Florida and Fort Indiantown Gap, Pennsylvania.

The Immigration Service and our government have always reacted quickly and sympathetically to the plight of refugees. Our willingness to accept hundreds of thousands of fleeing Cubans, Hungarians, Biafrans, and Ugandan Asians is testimony to that fact. The situation involving the South Vietnamese and Cambodians and now the Laotians has been answered in like humanitarian fashion, even though the mood of the country indicated less willingness to accept additional persons than in the past.

I should mention that even before the fall of South Vietnam and Cambodia, INS in early April took steps to ensure that no nationals of either of those countries would be involuntarily returned. An order went out from the central office on April 4 instructing our field offices to delay the return of any person to those countries, even though they may have violated the immigration laws. More recently, in October, instructions were issued to similarly process Laotians in the United States requesting refugee status.

Students from those countries who can no longer maintain their lawful nonimmigrant status may also be granted permission to accept full-time employment. And those continuing their status as nonimmigrant students who are in economic need may apply under the regulation for permission to accept part-time employment.

I have discussed the overall operations and problems of the Immigration Service because I believe it is important that you see the student program from our perspective. INS is a small agency, with just 8,000 employees, and has experienced very little growth in manpower over the past decade, while the responsibilities have grown ten-fold or more over that period.

The overwhelming desire of persons from nearly every country in the world to enter the United States to obtain employment, and the lack of adequate programs and resources on the part of INS to deal with this situation have created enormous problems.

Some of these problems, as may be expected, are in the student program. The "F" student classification is one of the means used to circumvent the immigration law. While the problem is much broader, the student who violates his immigration status by taking unauthorized employment or illegally remains in this country to work after completing his studies is a small but significant part of the overall situation.

I know that responsible educators do not want to see a worthwhile program such as this abused in such a manner, even by a few. Such abuses raise the possibility that deserving students may some day be denied the opportunity to study in this country.

To ensure that this does not happen, we in INS are making every effort to improve the administration of the program, and we welcome your assistance and cooperation. There are a number of steps which we and you can take to seek this improvement.

It has always been INS policy to confer with representatives of organizations having interests in different aspects of Service responsibility, and there have been meetings between our people who administer the student program and representatives of those institutions educating nonimmigrant students. Our local offices have been instructed to maintain close communications with colleges and universities within their jurisdictions. However, because we do not have enough people to carry out all of our responsibilities as well as we would like, this liaison may not in all cases be as good as it should be. For instance, here in the Atlanta district, which includes the states of Georgia, Alabama, South Carolina, Tennessee, Arkansas and part of Mississippi, we have just five people responsible for liaison with more than 600 educational institutions.

Certainly one area of control in which there is room for improvement is in the approval of institutions eligible to accept "F" students. By law, the Attorney General, through the Commissioner of Immigration, must consult with the U.S. Office of Education before an institution can be approved. So we must rely primarily upon the expertise of the agency as the basis upon which to issue or deny approval. However, the observations of this Council in the area of standards would be welcomed by INS, and probably the U.S. Office of Education as well.

One of the problems we face in this program is that created by some schools which negligently or even wilfully do not comply with the agreement to report to INS when foreign students do not register, do not attend classes or fail to carry a full course of study.

We are mindful, also, of some of the problems you have. The lack of an

adequate definition for "full course of study," had been one such problem for a long time. Once again, we took steps to remedy that. We have recently published in the Federal Register a new definition of that phrase. Of particular interest to you is the part of that definition having to do with post-graduate study at a college or university. In the case of graduate students, we accept the certification of an authorized school official as satisfying the requirement. In other words, we leave that definition up to the graduate schools. So, a great deal of latitude and responsibility is placed upon school officials in certifying that the graduate student is in fact pursuing a full course.

There is one area, which I would be remiss in not mentioning before I close. That is one which involves the authority to grant foreign students permission to work. Just a few months after becoming Commissioner of Immigration, I examined this situation and asked that several other INS officers take a close look at it, as well.

Our conclusion, which considered the short-term employment situation in the country, was that there were too many unemployed youth to allow foreign students to accept summer work. And the conclusion for the long-term was based on the premise that the authority of the Attorney General to regulate the conditions of admission of nonimmigrants, as spelled out in the Immigration and Nationality Act, should not properly be redelegated outside the government.

I should also point out that our district offices have for the most part been very fair in granting permission to work where there has been unforeseen economic need. We processed 29,263 requests in fiscal 1975, and approved 21,171, or nearly three-quarters.

In answer to some complaints that disparity exists between different offices as to those cases in which approval is granted, we have instructed district directors what factors should be considered. Among these is inflation that has resulted in unforeseen escalation of tuition and living costs.

Currently, we are publishing decisions on what is permissible student work, which are being distributed for use as precedents for the information and guidance of all concerned—students and school officials as well as immigration officers. I should mention too that last year we also processed 14,492 student applications for employment as practical training, and approved over 80% of them (11,709).

If this is an area of disagreement with educators, I hope it is one of few. I am confident that INS and educational organizations can work together well to seek solutions to other problems that will benefit the foreign student program, the students themselves and will also consider our nation's interests.

I believe the search for answers to many of the world's problems demands interchange among people. Educational interchange, social interchange and business interchange. There is little, if any, room for argument with these principles.

I assure you that the Immigration and Naturalization Service and I as Commissioner are strongly interested in the problems and the opportunities

of student exchange, as it applies to foreign students in this country. And we will continue to carry out our obligations to the best of our abilities to safeguard the program by eliminating the abuses and providing assistance where it is possible to foreign students and their schools in the United States.

Concurrent Workshops

Tuesday, December 2, 1975, 11:00 a.m.-12:30 p.m.

REPORT FROM THE DISCIPLINES

Moderator: Lyle V. Jones, *University of North Carolina, Chapel Hill*
James O. Miller, *Emory University*
Guy Stern, *University of Cincinnati*
Jerome Sutin, *Emory University*

Some Issues in Professional Education

James O. Miller

The focus of this paper is upon several major currents which are profoundly affecting the field of professional education and which will continue to do so in the future. I think these currents and their attendant issues will radically alter traditional approaches to graduate work in education.

Declining School Enrollments

The benchmark of change appeared in the late 1960s and early 70s. It was then we approached replacement-only birthrates in our nation. Since then school enrollments have steadily declined. Best estimates indicate a decrease in elementary and secondary enrollments over the 1970-1980 decades of approximately 13%. This represents a 6.7 million decrease in student population at the elementary and secondary levels for the 70's alone. Put another way, at an average teacher-pupil ratio of 1 to 25, a loss of 268,000 teaching positions could be anticipated.

The response to this shift from high demand to oversupply of teachers has been sorry. Our habit of thinking in growth terms has so veiled our vision that we have glutted the market with newly certified teachers. Unfettered production by institutions of higher education has created the situation where approximately 300,000 new teachers have gone on the job market *annually* since 1972 to find but 100,000 openings awaiting them! (McNeil, 1975). Three candidates for every opening! The preparing institutions have been unable or unwilling to exercise a gate-keeping function. The worst offenders have been the high producers—large state institutions. Nor have the national accrediting consortia been effective in stemming the tide. As late as 1972 evaluators from the National Council for Accreditation of Teacher Education (NCATE) were openly and adamantly critical of institutions they visited where the leadership was thinking or

planning in other than expansionist terms. Failure of colleges and universities, along with their once controlled accreditation consortia, to exercise the gate-keeping function to the profession has seriously eroded higher education's policy influence in professional circles.

Less subtle to the public at large than the power shift in the profession has been the rise in teacher militancy which has paralleled the decline in enrollments. This rise in militancy has multiple causes, of course. Increasing inflationary pressures on the take-home wages of the teacher; hostile legislatures unwilling to underwrite (from finite resources) the spiraling expense of the enterprise; degenerating working conditions where the teacher is the symbol of a system rejected by the excluded student citizens who have learned to survive through "belligerent aggressiveness . . . mistrust, and . . . violence" (Keniston, 1975). The teacher's image, imposed by others is aptly mirrored in the following definition making the rounds, reflecting the psychology supporting militancy:

> "Teacher—An overpaid, underworked, semi-literate person who is responsible for our crowded jails, ecology crisis, energy shortage and negative trade balance" (Cowle, 1975).

Sadly, a week's scanning of the newspaper provides ample evidence to verify the definition, if the pronouncements of public and prominent figures are to be taken as proof. The point is—teachers are angry. They are becoming more and more militant. They are effectively organizing. The strike, the walkout are no longer unthinkable, unspoken words or acts. This militant attitude is apparent in the graduate schools.

In graduate education teachers are no longer the docile persons once the case. Programs lock-stepped to course sequences, certificates tied to advanced degrees, subject matter not clearly relevant to the job or immediately applicable, professorial prescriptions on matters practical are all suspect and open to criticism. Such criticism strikes directly at the basic structure in graduate education. The gulf between the teacher practitioner and teacher scholar widens.

Goodlad, *et al.*, have suggested the development of centers which serve a group of schools (or districts) that are affiliated with a university for the purpose of professional rejuvenation. The concept provides a two way street for the practitioner and scholar with a neutral ground to meet on. Short courses, workshops, development activities, and research would be undertaken in these centers. Such mechanisms could help to free the graduate faculty from the heavy service program demands which many see as diluting if not ruining the quality of the graduate degree instructional programs. Further they could break the ideological battle over governance which now seems to be splintering the profession.

Governance of the Profession

Ultimately, effective collective bargaining depends upon control of

entrance to, retention in, and exit from the certified ranks. None of the adversary tools available to the organized teacher are of long-term value without such control. Teacher organizations have placed prime priority upon attaining the controlling voice in governance. In 1974, the National Education Association took a large step toward that goal when it won parity of membership on NCATE's Board of Directors. Until then the Board had been effectively dominated by the teacher preparation institutions, through NCATE's parent body, the American Association of Colleges for Teacher Education (AACTE). In turn AACTE has been dominated by the large producers—state colleges and universities.

In most states regulation of certification has been the responsibility of the State Board of Education. Usually the responsibility has been delegated to the State Department of Education as the administrative arm of the Board. There with the willing assistance (more often dominance) of the preparing institutions, the body of administrative regulations covering certification requirements has been developed and codified. Generalization of this pattern to deal with questions of certification reciprocity between the various states has been the function of accrediting organizations such as NCATE.

Given the membership of the alliance it is not surprising that certification requirements are stated in terms of credit hours earned, grade point averages maintained and approved courses of study completed. Retention in the certified ranks is dependent upon similar sets of requirements.

The result of the incestuous relationship between state agencies and state institutions has been that the preparation institutions find themselves in the somewhat embarrassing position of legislating certification criteria, implementing self-regulated preparation programs, and certifying their own graduates. The blush was not highly visible when teacher demand was high. It is becoming more evident as the public and their elected representatives become strident on issues of accountability.

Increasing pressure is being exerted by local educational agencies to permit locally developed and implemented staff development programs as an accepted alternative for certification renewal. Such programs based on assessed needs have attraction for the in-service teacher for they are directed toward experienced problems of the teacher. Graduate schools can argue the inherent parochialism and potential low standards of such alternatives but their arguments are not very convincing to the practicing teacher facing the trying realities of the day-to-day job. Nor are the professional organizations likely to give up this wedge into breaking the traditional system of governance.

Accountability

It has long been the fashion, indeed it has become a venerable tradition, for the politicians, self-ordained critics, disgruntled clients, *ad infinitum*, to build personal reputations on cheap shots directed toward our educational

system. The system suffers from an undeserved case of massive paranoia. Conditioned to being blamed for everything from failure to be first in space to failure to teach values and ethics to the preponderance of lawyers enmeshed in Watergate, teachers' defenses sustained a telling blow when the public's creeping cynicism and doubt concerning the value of education became apparent. Deserved or not, falling from society's unassailable value list has had the effect of increasing criticism of the means as well as the ends of the educational enterprise. Legislatures faced with double digit inflation have called for educational accountability. Slipping achievement averages have lent "objective" evidence upon which to base criticism.

It is not surprising in the face of shifting power bases and accountability demands that the AACTE would lean in the movement toward competency-based teacher education and performance-based teacher certification (CBTE/PBTC or more often just "the movement"). Stemming from the USOE sponsored Elementary School Teacher Preparation Models development effort of the late 60s, which was heavily influenced by the Department of Defense systems-oriented production models, the movement has substituted instruction by behavioral objectives for management by production objectives. Compendiums of instructional and behavioral objectives have proliferated the field. The traditional course has been supplanted by the instructional module. Theoretically the sequence of instructional modules is self-determined by the student. Instructional pace is also self-determined. Progress is regulated by successfully passing criterion-referenced tests intrinsically a part of the instructional module. The major strengths of such a program are believed to be (1) self-determined instructional sequence enhancing motivation and involvement, (2) self-determined pace providing for individual learning rates, (3) criterion-referenced tests insuring command of the subject matter. The complexity of such systems necessitates intricate instructional management systems to coordinate the operation and evaluate the outcomes.

The road to adoption of such systems has been littered with controversy. Opposition has been philosophic—"Can an enterprise such as education so intricately human in nature be reduced to production-oriented systems, or should it?"; substantive—"Can all knowledge be linearized to conform to a linear delivery system?" (reference here is to Bell's concept of the differing organizations and relationships of knowledge within the various disciplines); political evaluative—"Who sets the goals and objectives and determines their attainment?"; authoritative-obstructionist—"There's just no way it will work!"

The data are not in. But trials, formative assessment and summative evaluation should be productive in understanding such difficult questions as the nature of complex learning; what teaching behaviors directly influence student performance? What are the necessary and sufficient competencies a successful teacher must have? What are the levels of knowledge and understanding a prospective teacher must attain in order to be effective in the classroom? What are the criteria of success, effectiveness and competency? Subjectively we have our own answers, objectively we have little evidence, indeed we have little agreement as to the acceptability of

evidence. But I believe the movement is eliciting enough active interest to compel us to seek answers and I am willing to live temporarily with the relativity of the results. I believe that by successive approximations toward harder evidence we can approach sounder answers to the questions posed. The imperative for action will not rest while we wait for "final" solutions.

A much more difficult problem exists in the performance-based teacher certification part of the movement. All of the same questions beg answers. But performance indicators empirically validated are non-existent. At the same time the enterprise cannot wait until the final answers have been found. An iterative strategy should be adopted where the results of productive inquiry can be fed into the decision-making process while the decision outcomes become fodder for further disciplined inquiry.

Here a role consistent with the traditional expectations of the graduate school exists. The job of disciplined inquiry and research is compatable with the work of graduate schools. The problem of accountability will require the combined talents of sociologists, political scientists, economists, philosophers, psychologists, the various subject matter specialists, and educators if an adequate response is to be made. The complexity of the problem requires the efforts of those who can cross narrow disciplinary boundaries to bring their research talents to bear.

Here, in the State of Georgia, the profession, state agencies and the higher education institutions have been working toward a system of performance based certification. Recently, the State Board of Education let a contract for development of criterion-referenced tests covering the subject matter taught in the schools. These tests, of the minimum knowledge believed necessary for successful classroom teaching, are being carefully monitored in their development by teachers, administrators and academicians.

At the same time performance measures based on research results and conventional wisdom are being developed to assess the pre-certified candidate in the work situation. Again careful monitoring by all concerned constituencies is a part of the developmental process.

To my knowledge this represents the first statewide effort to solve the criteria and measurement problems in a cooperative, supportive manner. The heart of the movement is the difficult measurement obstacles we face. Krathwohl has pointed to this problem as the Achilles' heel of the movement.

This is a genuine, non-evasive effort to approach the questions of accountability. Do we have time for it to have a fair test? I believe insuring a fair test is a shared responsibility. Teachers, academics, members of the legislature, State Department personnel, the public at large, all have a stake in the outcome. Certainly our children do.

In this paper I have touched on some of the main currents in the field of professional education. They have been: declining enrollments, professional governance, and accountability.

But a more serious problem faces the schools which will have a far greater effect than any of these. Indeed, I believe, it will become the

domestic Sputnik of the late 1970's and 1980's. I refer to the energy problem of our nation.

I believe the energy crisis has been woefully neglected and its impact sorely underestimated. At the federal level we have petty bickering between the legislative and executive branches. At the state level there appears to be no recognition of the gravity of our situation. The schools' response has been controlled worry and the posting of a few signs by doors and light switches, "Going out? Lights out!"—a suitable followup to our WIN buttons.

You are aware of some of the distressing facts: "We use five times more energy per capita than any other people" (Anderson, 1975). We *waste* more than the total *used* by the Japanese, we consume more for air conditioning than the Chinese use for every other purpose. We are consuming more oil daily than we did before the embargo. We are importing 38% of what we use and can expect at present rates of consumption to be importing 50% of our needs by 1980.

Our nation's schools house approximately 25% of the population on any given school day. Schools consume 11% of our nation's space heating and cooling energy. School buses consume 50 million gallons of gasoline per year while driver education consumes 18 million gallons more.

Energy costs have skyrocketed. Over the past year cost rises of 45 to 120% are not uncommonly reported. If present federal policy of deregulation goes into effect, 300% hikes in the cost of energy to schools can be expected by 1985 by conservative estimates.

Our research effort in the nation to find alternative energy sources to meet school heating and cooling needs appears to consist of one elementary school in Atlanta, Georgia which has an experimental solar generated system providing 65% of its needs, and a school in the design stages in Virginia which will use solar sources for its plant. Who is supporting the latter experiment? Saudi Arabia! Someone has suggested that in our nation if you can't tax it or make a profit from it, it won't be done! And of course the sun's heat is free.

We need to take a hard look at our habitual ways of doing in schools, in training programs, in our perception of roles. We need to ask ourselves the hard questions in the face of time-honored traditions.

Do we use more energy in the winter quarter than we would if we stayed open in summer and closed in winter? Can we accomplish our educational goals by eliminating the summer *and* winter quarters? An eight-hour, six-day schedule during the other two quarters might be ample time allowing us to conserve during the high energy consuming quarters, and double effectiveness by eliminating the two-track consuming system of home and school. Must we continue to train our future generations to consume valuable resources and place a stamp of approval on gluttony through driver education programs?

Must the university continue to spend its resources in the applied areas of professional training which are so costly in energy terms? Can't the practicing profession take on complete responsibility for supervising preservice teachers? Shouldn't the university do what it can do best,

provide the aspiring teacher with a strong liberal arts foundation, a teaching knowledge base and laboratory experiences upon which the applied training can be built? Shouldn't the graduate programs in education focus upon the substantive problems requiring research and scholarly skills for their solution? Can the graduate program continue to center around field based applications, a reflection of the county agent model in agriculture? The extension model is a high energy consuming approach. These questions will be forced upon us by the energy problems we face and reassessment of the role and goals of graduate programs in education will challenge the habits we have long accepted. Heresy? Not if the objective is survival.

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The Graduate Dean and the Humanities

Guy Stern

To argue before this group for the maintenance of strong graduate programs in the humanities would be, I am sure, in the nature of storming an undefended fortress. Anyone who is the appointed guardian for the most advanced teaching and research on American campuses must be convinced of the aptness of Shelley's observation in *Prometheus Unbound* that only clarity of expression gives shape to the thoughts in all human endeavors:

> Language is a perpetual Ophic song,
> Which rules with Daedal harmony a throng,

Of thoughts and forms, which else senseless and shapeless were. In short, the traditional arguments for sustaining the humanities, even during a time of crisis and a narrowing job market, retain their validity if for no

other reason than the fact that our orchestra of disciplines would sound distorted without the full resonance of the humanities section.

But being both a scholar in the humanities *and* an administrator, I know full well that the traditional arguments and measures will not suffice to save our humanities departments from the debilitating effects of the quantifying budget keepers, the competition between the disciplines on our campuses, and the occasional inflexibility of the practitioners in the field. Hence there may be no more pressing task before the dean of a graduate school than to help the humanities out of this triple-horned dilemma.

Only very recently did the humanities awake to the brutal fact that they had been remiss in studying the premises on which external and internal support for all academic programs is being based. On the initiative of John Fuegi, a Professor of Comparative Literature at the University of Wisconsin at Milwaukee, the National Endowment for the Humanities and the Johnson Foundation convened a conference at the Wingspread Conference Center in Racine, Wisconsin, entitled "The Tax Dollar and the Humanities." The final report, to be sure, suggests that in some respects, e.g. at the state level, the humanities are not being discriminated against, at least not wilfully: "It would appear that the major result of the conference was to draw attention to the fact that a view of the use of tax dollars at the state level tends to suggest that the humanities are not faring badly." But even there I felt compelled to enter a demurrer:

> An alternate point of view was argued by Cyrena Pondrom of the University of Wisconsin of Madison and myself. Interestingly enough also, as things would subsequently develop, it became clear that a representative from SUNY and NCHEMS, though they argued at Wingspread that they felt the humanities were fairly treated, have since that when on expands one's comparison base from the state to the federal level, that the humanities are very, very, clearly discriminated against. This view was also supported parenthetically by a representative of the NEA who chaired the afternoon session at Wingspread.

My demurrer was essentially based on three observations meant more as symptoms superficial budget-keeping than as a complete diagnosis: 1) that contrary to commonly held belief, the sciences and social sciences make greater demands on the library budget than the humanities because of the far greater costs of journals, books, and serial services, as indicated in the July, 1975 issue of the *Library Journal*. Secondly, as the first tentative results of a personal survey of liberal arts colleges seem to indicate, students in the sciences make heavier demands on our class loads than students in the humanities, because they tend to graduate with a higher number of credits earned; and third, such students make correspondingly higher demands on the ancillary services of the universities and colleges. While I tend to think that these hidden costs of the science student do not constitute a dramatically higher drain on university resources vis-à-vis students in the social sciences and the humanities, the budgetary imbalance becomes far more acute when we look at federal funding.

In an appendix to the above-mentioned report, Charles B. Neff, of the Washington Research Office of SUNY, concludes:

> In general terms, the humanities receive little funding. The arts do slightly better, although because of the emphasis in the National Endowment for the Arts, the scholarly as opposed to the creative or performing aspects of the arts do not fare well. Educational research is in a somewhat better position. The social sciences, with exceptions . . . rank higher than the humanities, arts and education. The natural sciences and mathematics rank well above the others.

And John Fuegi, the organizer of the conference, extrapolates from Dr. Neff's extensive tables in a letter to me of November 20: In Charles Neff's report . . . the most chilling table in view is that given on page nine. The gross discrepancy between 10.61 $/FTE Fac. for foreign languages and 4,685.00 $/FTE Fac. for physical sciences is bad enough, of course; but if one excludes literature (including journalism), one then notes that all other disciplines (including fine arts and philosophy) are funded at least ten times better than the humanities by federal sources.

Fuegi then argues for assembling a national team to submit a grant proposal for study of the question of federal tax expenditures on the humanities. I should like to ask, at the end of this meeting, for the endorsement by this group of such a proposal.

But I should like to argue for a second, nation-wide approach in addition to John Fuegi's action plan aimed at federal agencies. To my mind it is equally important that we win adherants from among the general public. It may sound wildly ambitious, but if the environmentalists were able to raise public consciouness toward the quality of our surroundings, it should be equably feasible for the humanists to raise public awareness of the quality of life to which the humanist so decidedly contributes. A colleague and fellow dean, Dr. Albert C. Yates of the University of Cincinnati, has, in fact, suggested a concrete shape for such an "Awareness Seminar for the Public." Using the life-style of some typical contemporary men and women as its central scenario, the seminar could demonstrate the centrality of the humanities in the public's daily routine—from the books and magazines that our "case studies" read, the music they hear, the history that helps shape their thoughts, even down to foreign travel with its more exotic food and dress that lends interest and zest to leisure. The humanities—of course not they alone—help make up that part of man which distinguishes him from the computer. Ultimately all of man's activities transcend technology and science. No one has recognized this more clearly in recent years than Sir Bernard Lovell, a professor of radio astronomy at Manchester and President of the British Association. In his presidential address, entitled "Whence" and reprinted in revised form in the *New York Times Magazine* of November 16, 1975 he concludes:

> Science itself is neither a magic wand nor a poisoned arrow. Neither do I believe, as I have in the past, that it is neutral in its impact. Its deepest pursuits are inextricably entwined with human purpose and

> existence. . . . As a scientist I believe that observable phenomena are subject to scientific understanding. The pursuit of this understanding is an essential occupation of modern society. But I cannot believe that this quest embraces the totality of human purpose. We can apply the spectroscope to gain an understanding of the sunset, we can send the space probe to Venus, but we may never apprehend the ethos of the evening star. Human existence is itself entwined with the primeval state of the universe and the pursuit of understanding is a transcendent value in man's life and purpose.

But beyond being effective on a national level, graduate deans can be—and must be—supportive and, in fact, initiatory on their own campuses. It would be most appropriate, to my mind, if each graduate dean were to establish, at an early moment, a task force on the humanities composed of leaders in that area—but by no means confined to them—to address themselves to the concerns of the field. Obviously such a task force must focus on three overriding problems which are not unique to the humanities but appear to be particulary pressing—and depressing—to that subject area: the welfare of graduate students, the reform of graduate programs, and the placement of recently graduated degree holders.

In all three areas—let me stress this before advocating some highly practical approaches—we should steadfastly defend traditional offerings. As Dr. Donald K. Smith, Vice President for Academic Affairs of the University of Wisconsin system, put it in a recent radio interview, "If we discontinue Sanskrit for only one generation, a skill and knowledge will be lost, which, for all we know, may be urgently needed by those who follow us." To expand the example given by Dr. Smith, one could well imagine that posterity might need Sanskrit for, say, psycholiguistics, computerized translations, or speech therapy. The point is, we must protect our storehouse of cultural tradition as zealously as we would an endangered species.

But obviously—or else we would not have placed this subject on our national agenda—traditional programs, while valid, are not enough. There are simply not enough traditional positions to place even the best humanists. Some of the solutions listed below may point into directions that we, as graduate deans, might take; they can claim to be no more than exemplars. Each university may have some unique problems and some unique solutions which a local task force will uncover.

Let us first give some thought to the plight of the graduate student in the humanities. While it is true that the stipend level, conceived of as a measure of academic support rather than a "wage," is usually inadequate or barely adequate in many areas, it tends to be below average in the humanities. I see no great chance of redress by equalization on the campus level, since the competition for good graduate students is national rather than local. A department of electrical engineering competes with its peers in the U.S. and Canada rather than with the English department on its own campus. But other measures could be taken. Since many of our graduate students these days tend to be married, we could, for example, initiate a

placement service for the spouses of graduate students which would secure positions for the spouses commensurate with their ability and their earning potential. Such a program, I am convinced, would be of a particular benefit to students in the humanities who are, typically, more in need of such support than their fellow students in, say, engineering and medicine.

A task force on the humanities might also recommend the development of additional skills of students in the humanities during their residence in graduate school. Again, one example for many possible solutions: While it is true that a Ph.D. in the humanities faces immense competition on the academic job market, he or she enhances such changes considerably by having an additional facility. For example, one graduate student in German received a joint appointment in her discipline coupled with one in public relations at a four-year college. An English graduate student was hired at a junior college for teaching freshman English and working in student affairs; a Ph.D. in Spanish now has a part-time teaching job, rounded out by teaching English for adult foreign students in a city with a large Spanish-American population. What I would like to suggest, then, in light of these examples, is an internship program on campus, simultaneous with traditional graduate education. To be sure this newer approach makes even heavier demands on the time of a graduate student, but as experience has shown, this obstacle, for example by utilizing the summer months, is not insurmountable. Such internships could take place in all areas of university life, from the business office to student services and to academic offices.

The key goal in such training programs must be flexibility. Greater flexibility also seems indicated in the structure of graduate curricula. For example, while several universities have graduate programs in creative writing, few have analogous programs in technical writing. Yet the recent economic crisis, to cite one instance, has indicated that there is a great need for writers who can write clearly for an intelligent lay public on economics, business trends, international management, and the like. Similar needs for clear expository writing exist in many areas of our technological society. Again an example: one of my former students in German literature took some basic courses in Medicine; he is now based in Vienna as the representative of several medical journals in the U.S. My envisioned task force would look into meaningful interdisciplinary programs or correlative courses for students primarily based in the humanities. Could a program of medicine and ethics be developed? And is there a demand for its graduates? Or, a program in languages and international management? Or, in English and the social sciences with a view towards drawing on literature for case studies as well as from current society? I do not purport to have the answers to these questions, though I have seen isolated instances of the effectiveness of such imaginative combinations. But to explore the feasibility and worth of such programs would be the very task of such a task force. And this opening-up of the discipline may have an additional salutary and leavening effect. As several recent publications seem to show, the humanities may have become too narrow and rigid in their search for respectability in a scientific age.

Finally, our projected task force must consider a more intensive

placement program for the graduates of our humanities departments. For the most part, our placement offices on campus have been historically far less attuned to the non-academic placement of our graduates. (For academic placement the departments themselves usually take major responsibility.) But far greater study is needed for effective intercommunication between career-relations office and city, state and federal agencies, business and industry. For example, how would a language major learn of an opening in a junior-executive training program of a large firm, which has outlets in Europe and South America? How would a graduate student in theater direction hear of an opening at a historical museum—this is an actual case—which stages historical skits as part of its public service program? Here, too, a task force might make recommendations—this time on a more extensive service of our placement offices.

I have given cases and examples more often in my paper than an overriding philosophy; this was a deliberate choice. I think the basic philosophy, justifying continued strength in the humanities, i.e. that we must preserve and expand the cultural tradition of our civilization and continue to prepare the best academicians for our colleges and universities, needs little amplification. This point of view was again stressed, for example, by Stephen Marcus in the October 28, 1975 issue of *The Chronicle of Higher Education* in which he addressed himself to "the Demoralized Humanists":

> This generalized sense of demoralization has many sides to it, but one of those sides accurately represents and is a response to changes in the character of education. The university and higher education as a whole have become auxiliary institutions of production. However, the humanities normally do not produce exchange values or commodities, nor do they train human beings to produce them in turn. What they actually do in terms of this newly emerging context of the university as part of the system of production is precisely a project upon which self-clarification and working through are required.

But there are also voices that give a philosophical underpinning to my request for a transformation beyond preserving the tradition. E. Maynard Adams, Kenan Professor of Philosophy, University of North Carolina at Chapel Hill, wrote in the fall issue of *Humanities in the South, Newsletter of the Southern Humanities Conference*:

> What I am suggesting then, is that the humanities be developed and expanded in terms of their own indigenous categories so that we would have not only a transformation in our present humanistic disciplines, but also the development of normative ethics, normative social and political thought, humanistic psychology, humanistic social studies, and a unified humanistic study of man and his world as respectable intellectual pursuits. Such a development in systematic humanities would provide leadership and direction in the

more conventional humanities and arts and in our total intellectual life.

The task then of the graduate dean is clearly set out; we have an obligation to be the facilitators and spokesmen in preserving the beleagured humanities. Few tasks coming our way may be more urgent or more important.

The physicist and Nobel Prize winner Max Born reminded us, in a radio address of New Year's Eve of 1958/59 that, we are engaged in "an age-old war of survival for human dignity, human rights, for freedom of action, thought, and religion." In joining the struggle for the preservation of the humanities, we may be fighting this larger battle as well.

Trends In Biomedical Research Training

Jerome Sutin

My comments will be directed toward the problems facing basic science departments which serve both medical and graduate schools. I begin by accepting Truscot's[1] premise that "The promotion of research should be the chief part of the aim of every university. Research and teaching form one two-fold aim, but the parts played by each are not equal. The spirit of research must permeate all genuine university teaching, but, though in any university of today there will in practice always be teaching, it suffices for the ideal university that there should be research."

One might be prompted to ask, "Should a university graduate school be a research institution devoted to education, or an educational institution devoted to research?" Research institutes often have narrow interests or work on problems of limited scope, and the staff may not possess the range of knowledge and skills required for interdisciplinary training of graduate students. On the other hand, an educational institution cannot escape the vocational role forced upon it by the needs to provide manpower for specific national or community needs. Is it the purpose of the graduate school to train social workers, librarians, speech therapists, or urban planners who will be involved primarily in service or administrative work? If the answer is yes, then the graduate school is yet another professional school of the university attempting to educate those whose careers will be dedicated to research and the pursuit of new knowledge as well as practitioners who will provide the community service. In this regard, the problems of the graduate school faculties are the same as those of the medical schools, for, by their nature, professional schools must teach practical as well as theoretical knowledge. Courses provided for professional students are usually broad surveys of a field and are not designed to provide the depth, examination of primary sources, and experimental ways of thinking required in graduate education. This results in the need to provide separate tracks for professional and graduate students, but the faculty

generally is not large enough to offer two separate curricula without severe incursions upon research time. The result is frequently a hybrid arrangement, with the student taking some professional school courses followed by more graduate level courses. This has left many medical school basic science faculty members unhappy with their research training program for graduate students.

With the advances in biomedical knowledge, research areas have become so interrelated that traditional disciplinary boundaries no longer have much meaning. Specialization is now centered about biological problems, rather than oriented toward the techniques that were once associated with a particular discipline. Physiologists, pharmacologists, and microbiologists have had to become biochemists and even electron microscopists. Biochemists study the anatomy of molecules and anatomists and zoologists are frequently biophysicists, endocrinologists, or electrophysiologists. Indeed, most faculty members will now identify themselves with an interdisciplinary title such as membrane biologist, neuroscientist, or developmental biologist. A natural consequence of these developments is that graduate students in the several basic health science disciplines are expected to acquire a common background knowledge.

Graduate schools are usually structured along the lines of traditional teaching disciplines, but these disciplines are no longer unique in their approach to problems, and it is not at all uncommon for faculty members not to understand the work of others in their own department. While there are some administrative advantages in organizing the faculty into teaching disciplines, this can create difficulties in arranging research training. The establishment of interdepartmental Ph.D. programs is a device employed by some institutions, but this must be accompanied by provisions for maintaining the scholarly interaction of faculty and students with common research interests, including physical proximity, joint seminars, and an administrative arrangement to look after students in the program and protect their interests.

The research training of scientists has always been something of a schizophrenic process. Although the Ph.D. degree is supposed to represent appropriate knowledge and skills necessary to conduct research in a specialized field, the training programs have also had to take into account the way in which the degree holders will earn their living. Since in the basic health sciences this is primarily in university teaching positions, we have felt obliged to train our students to be able to undertake a role in almost any aspect of the teaching program in their discipline. When you consider a field like anatomy, this is an unreasonable burden upon the graduate training program. If a student must be competent to teach gross anatomy, cytology and histology, neurobiology, and developmental biology, he or she would have to spend an inordinate amount of time in general course work, for he also needs advanced training in physical chemistry, biochemistry, physiology, and biophysics. This would leave little time for significant research. Similar comments would be made about graduate training in physiology, biochemistry, pharmacology, and microbiology. A graduate student would be better off concentrating his formal studies in

one such specialty rather than opting for a more superficial exposure in many. However, to do so would limit employment options, for many departments are budgeted solely on the needs of the teaching program. A major task facing medical and graduate school administrators is the education of the public. They must convince taxpayers of the value of supporting the activities of biomedical and other scientists and the training of young investigators. Our research manpower pool is no less a national resource than our stockpile of strategic materials or our military establishment. University science faculties, as well as national professional societies, should organize themselves so that they can offer advice about the number and types of scientists needed, and the areas in which progress is most likely to be made in the foreseeable future.

This leads, inevitably, to a discussion of a national science policy. While there is a widespread feeling that the initiative must come from the executive branch of government, I have been surprised that there have not been more vigorous efforts by universities through the collective actions of graduate and medical school deans. Although the Federal government allots public funds which are the backbone of biomedical research and training, it is the universities which are in a position to determine the number of scientists that are trained and the size of the faculties in the various disciplines. Decisions about the size of basic science departments in professional schools and the number of graduate fellowships provided are usually based upon the number of undergraduate students and the demand for advanced training. If research is one of the primary obligations of the university, then the institution should make judgments about the fields of biomedical sciences which are likely to develop most rapidly and consider this, along with professional curricular needs, in allocating resources to science departments. Every departmental chairman makes such decisions in planning the direction of research in his unit, and I am suggesting that similar judgments be made at the graduate and medical school levels. Let me emphsize that I am not referring to "targeted research" of the type now in vogue on the national scene, but rather those broader aspects of science policy which are concerned with the allocation of both local and national resources available to the universities. Those universities in which the graduate and medical schools are committed to research and research training should speak with a strong collective voice in the formulation of a national policy. I believe they have it within their power to *determine* a national science policy. I am not oblivious to problems of funding research. While some justification can be developed for underwriting a portion of the cost of research from tuition income, it would be unfair to expect a very significant portion of the cost of this activity to come from this source. Similarly, endowment income these days is often insufficient to support the educational activities of the university, let alone major research efforts. Research will always rely upon public funding at the state and federal levels. Private universities must be particularly forceful in presenting the case for the benefits of tax supported basic research.

Graduate school administrators should also work to change the current emphasis in federal funding through contracts and center grants which are

devoted to a restricted problem. A return to the greater use of a combination of the traditional individual project grants, coupled with institutional block grants to provide core support, would be beneficial. Every effort should be made to reverse the phasing out of general research support grants.

I would like to emphasize the need for research core support facilities. The large number of NIH research applications which receive a high priority from study sections, but which cannot be funded at the present level of support, testify to the need for graduate schools to provide the means for these investigators to carry on in the absence of outside funding. Many institutions are able to support core centralized service electron micrscope laboratories, radioisotope laboratories, electronics and machine shops, computer facilities, photographic services, and animal care facilities, but too many graduate and medical school deans leave the funding of these essential services to departments or individual investigators. In my view, the acquisition of funds for central services and their management is one of the primary tasks of a dean concerned with the biomedical sciences.

The research and teaching functions of the basic science and clinical departments are interdependent, yet they require different management techniques in their administration. At too many institutions, research administration is concerned only with the fiscal or business aspect of this activity, with other planning carried out only at the departmental level. This may result in insufficient attention to fostering faculty and student groupings which would facilitate interdisciplinary research interactions.

Medical centers often have been described, by analogy, as a three-legged stool. Education, research, and service each form a leg supporting the overall activities of the biomedical faculty. Our medical schools and hospitals are well organized to carry out their teaching and service functions. Research, while encouraged, has evolved without the benefit of the administrative planning and support given education and service. While there are many problems in graduate education in the biomedical sciences, arguments about the best methods for research training will remain secondary to the need to ensure a stable level of support for research and research training.

REFERENCE

1. Truscot, B., *Redbrick University*, Pelican Books, C. Nicholls and Company, Great Britain, 1951, pg. 141.

Admissions Criteria

Moderator: David S. Sparks, *University of Maryland*
Arthur Reynolds, *University of Northern Colorado*
Sam C. Webb, *Georgia Institute of Technology*
Winifred O. Stone, *Bowling Green State University*
Mack Jones, *Atlanta University*

David S. Sparks

Not very many years ago minimum admissions criteria used by graduate schools and academic departments were simple, widely understood, and easy to administer. They consisted of an overall grade point average of "B" in a baccalaureate program completed at a regionally accredited undergraduate institution. Beyond that there was the expectation of exceptional performance in the area of proposed concentration in graduate school and letters from academic advisors or mentors providing assurance of high motivation, good character, and the possession of any needed research skills or language competence by the applicant. Occasionally there were references to the need for acceptable scores on standardized tests such as the Graduate Record Examination, the Admissions Test for Graduate Study in Business, or the Miller Analogies Test.

While the catalog of virtually every institution represented in this room still contains the general outline of these criteria, they are increasingly viewed as defective. Depending upon the critic, they are deemed defective because they are culturally biased and racially discriminatory, not highly correlated with subsequent success in graduate school, or are used in barring women, part-time students, or older applicants.

A growing number of national boards, commissions, and committees, to say nothing of the Congress, state legislatures, and local organizations have been telling us to mend our ways. We must, they warn us, broaden our view of our proper clientele and, in the words of the *Panel on Alternate Approaches to Graduate Education*, give "preferential treatment to those hitherto discriminated against."

There is considerable evidence that some of us have been listening to this advice. Several current graduate catalogs describe broadened criteria for admissions including recognition of non-traditional study, external baccalaureate degrees, and experimental learning. The number and variety of institutions embracing these new criteria remains, however, relatively small. Additional evidence of our attempts to adjust our admissions criteria to a new environment and to new perceptions of the role and function of graduate education are contained in the papers that follow.

Dean Arthur R. Reynolds will describe his own institution's growing commitment to the external degree and its impact on admissions criteria.

Dean Sam C. Webb will describe the efforts of Georgia Institute of Technology to increase its full-time enrollment and how those efforts have

led to the use of both new criteria and changing procedures in the processing of applications.

Dean Winifred O. Stone, of Bowling Green State University will report on his institution's experience with a new category of admitted students—the non-degree students—which Bowling Green calls special standing for advanced study—graduate students (SSAS).

Professor Mack Jones, Chairman of the Department of Political Science at Atlanta University, will share with us portions of his experience and his thoughts on admissions for minority students.

Admissions To Special and Advanced External Degree Programs

Arthur Reynolds

In the summer of 1970, the University of Northern Colorado at the request of the U.S. Department of Housing and Urban Development established a Center for Special and Advanced Programs to offer programs of professional work leading to the Master of Arts degree for employees of that department, for employees of other federal, state and local government agencies, for non-profit agency personnel, and for unaffiliated individuals. When the educational officers in several military installations learned of the University's Center for Special and Advanced Programs and the opportunity for employed persons, including military personnel, to earn a master's degree through extensive preliminary directed readings and self study interspersed and followed by three day weekend seminars, the University was invited to provide comparable educational services for military personnel at 22 army, naval and air bases in 11 states.

When the University inaugurated these external degree programs on an experimental basis, it retained the traditional format of graduate education in all of the on-campus degree programs. Since the University has offered master's degrees for over sixty years and doctoral degrees for nearly fifty years, it is not a Johnny-come-lately to graduate education but has a strong and wide base of previous experience to give perspective and depth to the University's evaluations of the academic validity, relevance, and reliability of these external degree programs.

Let me emphasize that the external degrees are offered only in a limited number of fields, namely: Business Administration; Business Management; Communication; Curriculum and Instruction; Psychology, Counseling and Guidance; Recreation; and Public Administration. The graduate council, which is the interim body which legislates for the graduate faculty between meetings of the graduate faculty, declared its intention at the outset to make appropriate innovations to serve the needs of the student clintele involved in these programs. Since the traditional format of graduate education was retained for on-campus programs, there was and is an opportunity for the graduate faculty as a whole, the graduate council, the

faculty senate, the participating instructors, and regional and national accrediting agencies to compare and contrast the acedemic accomplishments of the students who pursued the regular on-campus degree programs with those of the students who pursued degrees in the innovative, external Center for Special and Advanced Programs. Since the same programs are offered on campus by the same instructors and the same or comparable comprehensive examinations are designed, administered, and evaluated by these instructors for both the students on campus and the students off campus, the University has a valid base for comparing student accomplishments.

For those programs offered by the Center for Special and Advanced Programs, the graduate council agreed to make several modifications in its traditional rules and regulations. Instead of the normal requirement that a master's student must have at least two quarters of full-time study on the campus to satisfy the residency requirement, all special and advanced courses carry full residence credit no matter where the student takes the course. Instead of the normal requirement that an applicant for a master's degree must have a baccalaureate grade average of 2.70 to gain admission, students in the Center for Special and Advanced Programs, from the outset, were required only to have a baccalaureate degree from a regionally accredited institution. Since the graduate council does not require a minimum grade average for admission to these programs and since the graduate council has taken the position that previous grade averages are not relevant to the success or lack thereof of the students in these experimental programs, the graduate school office has studiously avoided the process of figuring grade averages for these students. Each applicant is required to present his baccalaureate transcript to demonstrate that he has earned his degree from a regionally accredited institution and his document is maintained in the student's permanent file. The previous grade average could be computed for each student some time in the future if the graduate council decided that it was advisable to do so for purely research purposes.

The intent of these external programs is to deliver high quality, dynamic, aggressive, flexible graduate programs to employed mid-career personnel at a time and place where these educational opportunities can be used by the students to advance themselves in their career objectives. Equally important to both the students and the University, this flexibility of delivery must be achieved with no sacrifice of educational quality. The program emphasizes performance criteria rather than the minimum number of hours of credit earned. However, the minimum number of required hours for the external degree program is three more than that required for the traditional on-campus program.

As the Dean of the Graduate School I continuously review the programs with the departmental coordinators in those disciplines in which the University offers these external degrees. Since these are external degrees and since there is no grade average or GRE Aptitude Test score requirement for admission to the programs, I am doubly anxious to reassure myself that the level of competence demonstrated by each student is comparable to or higher than that demonstrated by the students in that or comparable disciplines who earn their degrees in the on-campus program.

Comprehensive examinations in all of the degree programs are prepared by, administered by, and evaluated by the members of the department which is offering the degree whether the degree is given on- or off-campus.

Following the administering of each comprehensive examination, the student's number is substituted for the student's name on the examination paper to assure that the student writer of the examination is totally unknown to the teacher evaluator. On-campus and off-campus comprehensive examinations are integrated so that the teacher evaluator cannot determine whether the student writer is an on-campus or off-campus student.

After the comprehensive examinations have been evaluated by the departmental readers, each student's name is again placed on the examination paper and the examination questions and answers are forwarded to the Graduate School office where they are placed on permanent file and made available for review by members of any regional, national, or professional accrediting team who may wish to evaluate the level of competency required to be demonstrated prior to the awarding of the master's degree.

Students in the external programs, the same as students in the on-campus programs, who fail the comprehensive examination are permitted to retake the exam after they have taken additional course work and/or have done additional study and review. At least one academic quarter must elapse before the student may retake the examination. Most students in both programs are able to raise their level of competency to an acceptable level and thus pass the retake of the comprehensive and earn their degrees. However, some students at my University, the same as in all other institutions, are able to earn satisfactory and often even high grades in discrete courses but are unable to put it all together in a comprehensive examination and thus are unable to demonstrate a master's level of competence in the discipline. If the student fails the comprehensive retake on campus, the Dean sends the student a certified-restricted letter notifying him that his program has been officially terminated. In our experimental program in the Center for Special and Advanced Programs a student may be permitted a second retake following still additional course work, and/or still additional study and review. Very few students avail themselves of the opportunity for a second retake. If the student in the off-campus program fails the second retake, the Dean sends the student a certified-restricted letter of termination.

The profile of the typical master's student in the Center for Special and Advanced Programs that I obtain from the departmental coordinators is that he or she is about ten years older than the on-campus student. Ninety to ninety-five per cent are mature adults who have family work responsibilities in addition to their academic pursuits and are employed and have been employed in their professional positions for several years. They enter a graduate program with a previous range of work experience and have a different commitment to learning and more realistic goals than most of the younger students. Consequently they bring to the classroom a wide base of practical experiences which they share with their student peers as

well as with their professors in the courses. In addition, these students have a clear and present stake in earning a graduate degree which will probably help them to secure a job promotion immediately after completing the degree or within a short time span following the completion. The students have a greater range in academic ability and background than do the normal master's level graduate students. Students fit on a continuum which extends from A to Z. Ten per cent write master's comprehensives at a level which would be graded satisfactory in that discipline for a doctoral general examination. On the other hand, at least five per cent are anxious to succeed but are destined to fail from the beginning because of inadequate background, inability to express themselves in an academic environment or unwillingness to make the necessary investment of time, energy, and money. Although there are exceptions to prove the rule, these students tend to be more fluent than their on-campus counterparts. They also tend to be more self-directed and more highly motivated than their on-campus peers.

Some enlisted men are involved in the programs at the military installations but most of the students at army and air force bases are commissioned officers of the rank of captain or above and at naval stations are commissioned officers with the rank of lieutenant or above. Because of the peace-time cut backs in the armed services, many of the students are pursuing master's degrees with the hope that securing the degree will be beneficial to them in obtaining promotion in rank. Since these students are older, more motivated, more self-directed, more job-oriented and possessed of more practical work experience than the characteristic master's students, the graduate council believes that neither a minimum grade average nor a minimum GRE Aptitude Test score is relevant in these programs. The success to date of the large majority of the students who have pursued these degrees confirm the validity of this judgment.

Some three years after the University established the Center for Special and Advanced Programs to offer external master's degrees it became apparent that there were some very capable, highly motivated professionals who had reached positions of significance in their occupations but who had dropped out of undergraduate school several years earlier for a variety of reasons. Several of these professionals requested permission to take some of the classes in our external programs on an unclassified basis. Such permission was granted and these students quickly demonstrated that they could complete the courses at the same level of competency as did their student peers who had baccalaureate degrees. The obvious question which came to the minds of these unclassified students and to the minds of the members of the graduate council was, "Is a baccalaureate degree a relevant admission criterion for admission to a master's degree program in every instance?" The success of these unclassified students in the courses they carried strongly suggested that the answer was no. Therefore, the graduate council appointed a committee to prepare guidelines which might be used in admitting non-baccalaureate holders to master's degree programs. The committee searched the literature for precedents on this matter with little success. I asked for a show of hands at annual meetings of CGS, MAGS, and

WAGS to determine if other institutions always required that the student hold a baccalaureate prior to admission to the master's. Many of the deans responded that they did not invariably require the baccalaureate and that they waived the requirement in a few specific instances.

However, I gained the impression that institutions did not have regularized procedures and appropriate guidelines to implement such irregular admissions. Therefore, I urged the graduate council's committee to complete appropriate guidelines for such admissions. When completed, the committee's proposed guidelines were presented to the graduate council which made some modest amendments to the proposals and adopted them to be effective June 1, 1973.

I have distributed copies of the guidelines for your perusal. I would like to emphasize a few points in regard to the guidelines. The five-member committee is chaired by the assistant dean of the Graduate School. It includes the undergraduate admissions officer, one department chairperson, the School of Business external degree coordinator and one on-campus graduate student. The assistant dean makes a preliminary screening of all applications before he presents the names to the committee and eliminates any that he considers to be marginal. He uses the WATS telephone line to contact the employment superior of the applicant in order to obtain concrete evidence of the person's ability and his job performance. The committee also requires the applicant to submit an autobiographical sketch which must include a statement of why the applicant believes he should be admitted without his baccalaureate and what his educational goals and motivation are. This gives the committee an opportunity to assess how well the applicant can express himself in addition to securing work and educational data. When the graduate council adopted the guidelines, the members provided that non-baccalaureate degree holders who were admitted to master's programs could pursue the degree either off-campus or on-campus. The applicant is not admitted unless the department in which he plans to major is willing to accept the student.

Although the members of the graduate council think this is a most appropriate policy to follow, the University keeps the program at a low profile. There is no advertising of the availability of this opportunity except by word of mouth and a brief footnote in the **Graduate School catalog**. In the two and a half years since the guidelines went into effect 234 persons have made inquiries about admission and 74 submitted applications after their initial contact. Twenty-nine have been admitted by the committee and those are almost evenly divided between off-campus and on-campus programs. Thirty-eight applicants have been denied admission. The half dozen remaining applications are pending receipt of additional information and/or committee action.

Let me summarize my remarks:

On an experimental basis, the University of Northern Colorado during the past five years has admitted to a master's degree program in our Center for Special and Advanced Programs any applicant who holds a baccalaureate degree from a regionally accredited institution without consideration of the student's previous grade average or Aptitude Test scores.

Moreover, on an experimental basis, the University during the past two and a half years has admitted to both the external and the on-campus master's degree programs a few carefully selected students who do *not* hold a baccalaureate degree.

Very careful, although admittedly strictly subjective comparisons made by faculty members who have taught both these special external degree graduate students and regular graduate students and who have evaluated the comprehensive examinations of both groups of students demonstrate that there is no discernible difference in the academic accomplishments of one group as compared to the other.

Guidelines For Admission of Non-Baccalaureate Holders To Master's Degree Programs– June 1, 1973

1. A five member Committee on Admission of Applicants Who Do Not Have a Baccalaureate Degree shall review all Master's applications of non-baccalaureate holders.
2. The Applicant must satisfy each of the following criteria prior to admission. In the case of an individual applicant, the Committee has the authority to waive any criterion which is not educationally relevant.

   A. Minimum age of 30.

   B. Must have had practical experience in the field in which he proposes to pursue the degree. His experience and performance must have been at a level of competence expected of a college graduate in that discipline.

      (1) This is admittedly a subjective judgment.
      (2) The University shall seek assistance from those who have knowledge in the field in the evaluating of the previous experiences.

   C. Must have a strong positive recommendation from a regular University of Northern Colorado faculty member who has knowledge of the competency of the student. This person must be from the discipline in which the student wishes to work.

   D. (1) Must have at least ninety (90) quarter hours of course work with a 2.5 grade average;

      or

      (2) Present scores in the 50th percentile or above in the five CLEP *General* Examinations (English Composition, Humanities, Mathematics, Natural Sciences, Social Sciences—History) for forty-five (45) quarter hours and present scores in the 50th percentile or above for forty-five (45) additional quarter hours of CLEP *Subject* Examinations;

or

(3) Present a combination of course work and/or CLEP scores which will be equivalent to ninety (90) quarter hours of credit. NOTE: An applicant may not receive credit for a CLEP *Subject* Examination covering course work for which he has received academic credit nor may he receive credit for a CLEP *General* Examination in any area in which he uses more than three (3) quarter hours of undergraduate credit.

E. Must have scored "adequately" in either the GRE Aptitude Exam or the Miller's Analogies Exam. The applicant must have scored at least 840 in the combined Verbal and Quantitative parts of the Aptitude Test *or* must have scored at least 35 in the Miller's Analogies Exam.

F. Must present name, address, and phone number of his or her immediate supervisor so the Committee may contact that person. The Committee shall request from the supervisor concrete evidence of the person's ability and performance.

3. The applicant's department will have the right to establish any additional screening procedure provided the screening applies to all applicants in that department.

4. An applicant who has used his previous experiences to obtain admission to a program shall not be permitted to count those experiences as part of the Master's degree requirements.

5. An applicant from a non-accredited institution may be admitted by the criteria listed above.

Experimental Admissions at Georgia Tech

Sam C. Webb

I appreciate the kind invitation of Dean Sparks to be a participant in this program.

To set my remarks in perspective, let me first note that Georgia Tech set for itself in about 1969 the goal of raising the level of effective full-time student enrollment from the then 8% of total enrollment to 20% of the total, without reducing admission standards. It also set the goal of increasing its effectiveness in offering, for persons employed in the Atlanta area, twilight-evening and off-campus programs leading to master's level degrees.

Within the admissions perspective, these goals obviously call for the enrollment of more full-time and more part-time students. My remarks will

describe some of the things we have attempted and are trying to achieve these aims.

Our basic plan of operation holds each school responsible for recruiting its own students. Applications are processed through a fairly simple procedure designed to maximize quick action on applications. This system was adopted in the belief that a quick response will increase the percent of matriculations from those admitted. According to this system, the biographical statement and letters of recommendation go directly from the applicant to the school. The application and transcripts go to the Registrar, who forwards them to the appropriate school. The school director or his graduate coordinator is authorized to accept or reject American applicants with a GPA of 2.6 or higher. He makes a recommendation for action on applications for all international students and for all Americans with a GPA of 2.5 or lower. This recommendation is forwarded to the Graduate Dean for review and final decision. The school notifies the applicant of the action taken. The Registrar maintains a status file on tape on all applications and furnishes the schools and Graduate Division periodic reports. The schools furnish the Graduate office and the Registrar's office with copies of all application forms, action sheets and correspondence. Since practically everybody likes this system, our experimental efforts have been directed primarily toward the recruiting side of the admissions. Accordingly, my remarks are going to describe some of the things we have been trying to increase, the number of applicants and matriculants. As you will see, some of these efforts have influenced the admission process as well.

First, let us consider some things we have tried to increase, the number of full-time students.

One thrust that is being made by the College of Engineering is called the dual degree program. The program is patterned after the conventional 3-2 type program at the undergraduate level in which the student studies three years at the first institution and then two years at Georgia Tech and receives a bachelor's degree from each institution. The graduate level program differs from this pattern insofar as the student spends three years at a cooperating institution and the fourth year at Georgia Tech. The student gets his undergraduate degree from the cooperating institution and enrolls in a graduate program at Georgia Tech if, by the usual admission standards, he is admissable.

This program was developed to attract the student who is attending a small college, who wants to attend graduate school, and who, if he pursued a four-year curriculum at his college, would very likely have to take prerequisite courses if he subsequently enrolled as a graduate student at Georgia Tech. The dual degree arrangement permits him to attend to the prerequisites during the fourth year and reduces the time of graduate enrollment.

Presently, approximately 90 colleges are cooperating with us in this program. Two students have completed degrees through this program and six more are currently in the pipeline. An unexpected bonus which is just beginning to manifest itself is that some students who have learned of Georgia Tech while attending the participating schools are coming to Tech after completing their bachelor's degree at the participating school.

Another experimental effort is in the area of international education. While we normally enroll a rather large number of international students, we usually deal with each applicant on an individual basis, adhering closely to a prescribed set of admission requirements. In the present instance, we have entered into an agreement with the Algerian government to provide graduate instruction on a contractual basis for a number of its students. For us, the arrangement is unique in that it provides for a cooperative program in which each student will work under the direction of a professor on a research problem relevant to the needs of his country.

While we reserve the right to evaluate these students on the basis of the same admission criteria as we do all other international students, it seems clear that to make the program work, we are going to have to make some special arrangements to accommodate some of their special needs. For example, none of the first eleven students who have matriculated (all in nuclear engineering) were found to be sufficiently competent in English to be able to begin their studies. Hence, all are having to study English as a second language on an essentially full-time basis. Additionally, all are being permitted to take one course in nuclear engineering as a way of assessing their preparation in engineering. Student performance in that course suggests that subsequent students who are admitted may in addition to language have to take some undergraduate nuclear engineering courses before they can perform satisfactorily at the graduate level. Special admissions arrangements will have to be worked out to care for this situation. We may thus have to do some admission standard bending to get this program going. Nevertheless, the prospect of assisting a country which has an abundance of raw materials for producing nuclear energy, but which does not have a single citizen technically capable of carrying out the necessary conversion processes, suggests the desirability of reasonable changes in our admission processes.

Upon occasion we have considered developing a plan for what we call institutional or coordinated recruiting. The idea emanates from the realization that while each school might like to be completely autonomous in its recruiting activities, budgetary and other factors simply make it impossible. No school can afford to visit all the colleges and universities it would like and some cannot even develop the type and quality of publicity materials they desire.

Because of these limitations it has been suggested that we train some appropriately selected faculty members in recruiting techniques, acquaint them with the curricula and requirements of the several schools of the Institute and send them to placement centers or other appropriate locations to represent and recruit for all other schools of the Institute as well as for their own. Some people believe this procedure would allow us to extend the number of institutions we can cover and with more effective results than is presently possible.

While this idea has by no means been generally accepted, discussions of it have led to a widely held opinion that there is a real need for some good quality recruiting materials that are generally applicable to all schools and which can be easily supplemented with more detailed information about a particular unit.

In response to this need we have recently developed an audio-visual slide tape presentation of graduate programs at Georgia Tech. It runs for about 20 minutes and consists of 110 slides and accompanying narrative. The presentation provides a brief description of the Institute and the graduate students. Then, it discusses the degrees we offer and requirements therefor. It tells something about our research programs. It notes the types of financial support we have to offer and concludes by describing our application procedures.

The presentation can be shown by dual projectors with fade/dissolve and an audio player, or by a single projector and an audio player unit. Also, it is being prepared in video tape cassette form.

The Graduate Division will make these materials available to the several schools for such use as they devise. Some schools have indicated a desire to purchase the materials and augment them with specific information about their own schools. Others may care to use them in their present form. We will make the cassettes available to colleges that request a representative for their Career Day if no one is available to go. We believe the presentation is attractive and will prove quite useful, but that remains to be seen.

Finally, I note an experiment concerning the admission of part-time students. Except for a few instances, our efforts to develop with various organizations cooperative plans for providing graduate level training to qualified employees have been generally unsuccessful. Typically, the organization has been excited over such a prospect, citing the possibility that a large number of its employees would be potentially interested. But then a smaller number of persons would express interest than was anticipated. Many of these would be judged unqualified because they had a low college grade point average or because they had not taken appropriate prerequisites. Thus, the number of persons finally judged qualified would be too small to justify conducting a class.

In cooperation with the Lockheed Company of Georgia, we are offering a program that in development deviates significantly from this pattern. In this case we are offering two courses each, leading to the master's degree, in the fields of industrial management, aerospace engineering and electrical engineering. The training coordinator at Lockheed has publicized the courses and encouraged all employees who so desired to enroll. To encourage participation, the company pays the tuition and fees and classes are conducted on the company premises.

For our part we have accepted all 162 persons who chose to enroll. As might be expected, these persons vary widely both in amount of training and in quality of prior performance. They include persons who have the Ph.D. to persons with no college degree, and in a few cases persons with only a high school diploma but with many years of practical experience.

Thus we have adopted a completely open door policy, which is a different, if not innovative, practice for us. As is perhaps the case for many of you, we have had a difficult time establishing for applicants with work experience a limit, as measured by academic records, below which substantial numbers of persons demonstrate they are unable to make satisfactory graduate grades. Perhaps from this experiment we will be able to tell if there is indeed any such limit.

As of today we note that of 108 students who enrolled for two courses in this program 20% have dropped both courses and 20% have dropped one course. Of 54 persons who registered for only one course 15% have dropped out. As would be expected, the drop out rate is related to both grade point average and student classification. For example, of those registering for two courses, the percent who have dropped one or both courses is 50% for special undergraduates, 35% for special graduates, and 33% for graduates.

It is going to be of considerable interest to see what the final outcome of this experiment will be.

After reviewing the above remarks, I am concerned that I have said too much about recruitment and not enough about the admission process *per se*. But, as I previously noted, right now our concerns are centered on the desire for more and better matriculants, so that our experimental efforts are being given to the recruiting aspect and not to the administrative aspect of the admissions process.

New Challenge To Graduate Schools: The Non-Degree Student With Special Standing For Advanced Study

Winifred O. Stone

Since the beginning of this decade, the sanctity of traditional approaches to American undergraduate and graduate education has been scrutinized in light of the needs and demands of a changing society. One result of this scrutiny is the realization that higher education need no longer be reserved exclusively for those willing to take sabbatical leave for academic pursuits. In the report *Less Time, More Options* (1971), the Carnegie Commission on Higher Education articulated this spirit by declaring, "Education should become a part of all of life, not just an isolated part of life." The mandate for furthering opportunities for "lifelong learning" was expanded in *The Second Newman Report: National Policy and Higher Education*. It called for greater opportunities "for individuals to return on a recurrent basis to a full range of educational progress."

It was in this context that, in 1971, the Bowling Green State University Graduate College's non-facilitative stance toward students taking graduate courses who were not enrolled in degree programs was reexamined. The basic policy prior to that time was that non-degree students could take only a limited number of courses by special permission. After a student had reached the specified limit, he/she would either have to gain admission into a degree program or take courses at another institution. The stringency of such a policy was unworkable for both the students and the University. The reasons for this were twofold:

(1) Most of the non-degree students were public school administrators

and required post-baccalaureate credit in excess of the University minimums in order to achieve and maintain professional certification.

(2) Students who did not choose to gain additional credits at another institution often elected to make application to a degree program. Therefore, graduate departments received numerous applications from students who had little immediate interest in graduate programs.

Realizing this dilemma, and in keeping with the aforementioned spirit of recommendations set forth in educational reports at the time, the Graduate Council approved by common assent the identification of a new category of admission: Special Standing for Advanced Study (SSAS). This category represents a non-degree status within the Graduate college and was designed for students wishing to pursue personal/professional goals through advanced study. Students seeking admission to the Graduate college through this category are required to sign a statement of understanding. The statement clarifies the SSAS status and informs students that although an unlimited number of courses may be taken under this category, only a maximum of twelve hours of graduate credit may be counted in a degree program. It also states that SSAS does not automatically evolve into admission to a degree program; acceptance to a degree program is contingent upon approval of the specified department and the Graduate college.

Several months after establishment of this category, the Council of Graduate Schools and the Educational Testing Service issued their report, *Scholarship for Society: A Report on Emerging Roles and Responsibilities of Graduate Education in America*. It was recommended in the report that graduate departments "should develop non-degree sequences to supplement regular degree programs. . . ." Thus the action of the Graduate college which established the SSAS admission status was deemed both institutionally appropriate and of potentially significant benefit to the community it serves. As a result, the needs of academe and society converged to create a mutually beneficial policy—an all too infrequent occurrence.

In January 1975, two years following establishment of SSAS, a study of the category was initiated to assess characteristics of the SSAS population and to invite qualified students to seek admission to degree programs. Results of the investigation are contained in the report, *A Study of Special Standing for Advanced Study Graduate Students*. The report produced significant findings following the statistical analysis of data and observations produced from returned questionnaires.

The SSAS Study Profile

The following data profile represents findings relating to the SSAS

student sub-group enrolled in the Bowling Green State University Graduate College:

1. 2,500 students used the category over a two year period (1973-1975).
2. 700 active students were identified.
3. 414 active students responded to the questionnaire (64% of the 700 active students).
4. The average age was 36 years old.
5. Women represented 66% of the respondees.
6. Minorities constituted only 4% of the respondees.
7. 95% were employed in the field of education.
8. 69% were employed as teachers and 31% were engaged in administrative positions.
9. 22% of the teachers indicated plans to change their field within five years.
10. 72% of those teaching and 72% of those counseling were women.
11. Men represented 78% of those employed as principal or vice principal.
12. No women were found employed as superintendent.
13. Students were evenly split between those engaged in post-baccalaureate and post-masters level course work.
14. Ten years represented the average period of time since receipt of the baccalaureate degree.
15. Eight years represented the average period of time since receipt of the masters degree.
16. The SSAS students' overall GPA was 3.69.
17. The average number of hours completed was nine.
18. 30% had completed more than twelve hours.
19. 58% were taking courses for professional advancement.

20. 17% were taking courses for personal enrichment.

21. 79% indicated a desire to work toward a graduate degree.

22. 64% expressed interest in receiving program information, guidance, or counseling.

23. 80% anticipated taking courses in the SSAS category for less than two years.

The results of the study indicated that students are using the SSAS category in a manner consistent with its purpose: to provide students with an opportunity to pursue personal/professional goals through advanced study. The investigation also provided a clearer picture of the characteristics and needs of students in this category.

What follows is a discussion of the SSAS admission category as used in the Graduate college at Bowling Green State University. In addition to reporting advantages and problems, the presentation will address coordinating efforts necessary to meet the needs of special standing for advanced study graduate students.

Advantages Of The SSAS Admission Category

As reported above, the survey indicated that the majority of SSAS students (95%) were professional educators, and their major reason for taking courses related to professional advancement, certification, or improved salary; whereas, only 17% were taking courses for personal enrichment.

It might be appropriate at this point to ask, "If educators need these courses, why don't they apply for admission to a degree program?" This query can be partially answered by noting that one quarter of those using the category stated that they had no desire for a higher degree. Thus, it can be seen that the category is a real advantage to those educators and others who, for professional reasons, desire additional course work but do not desire an additional degree. But what of the other three quarters who claimed a desire for a higher degree; why are they using this category?

In answering this question, we illuminate another major advantage of SSAS. Much of the initial course work taken by these students is offered by the University's office of graduate and extension programs in education. Classes are held in various local high schools, branch, community, and technical colleges. It is noteworthy that many who choose to take courses under special standing status are not typical graduate students who devote months to a formal admission process: 12% of those responding to the survey noted that they were unable to complete the regular degree program admission procedure in time for a course, and 20% lacked information on degree options. These responses indicate that SSAS facilitates access to graduate course work. In a time of declining enrollments, the activities of a

far-reaching extension program coupled with a flexible admission category can provide an institution with an increased enrollment and a pool of qualified students for admission to regular degree programs. In the fall of 1975, approximately 15% of the graduate full-time equivalents at Bowling Green State University were generated through this admission category. Such a resource is not easily overlooked.

Problems Encountered With The SSAS Admission Category

While Voltaire's Dr. Pangloss might argue that we do live in "the best of all possible worlds," graduate deans, department chairmen, registrars, admission officers, and students know differently; and the problems endemic to the SSAS category seem to add weight to the views of those who don't share Dr. Pangloss' optimism.

Traditionalists might tend to perceive the category as a threat to academic standards. They express a concern that students unable to receive regular admission will employ SSAS as a "back door" approach for gaining entrance to degree programs. What does a department admissions committee say to the below-average but dauntless student who, having been rejected for regular admission several years ago, comes, hat in hand, with 45 quarter hours of graduate credit and wants not only entrance to a degree program but a degree as well? It was in response to this kind of threat that a ceiling of twelve quarter hours transferrable to a degree program was stipulated as a condition of special standing status. A further reassurance to alleviate concern regarding the integrity of degree programs is that of those students responding to the survey only 6% were unable to gain regular admission to graduate school prior to enrolling in SSAS; students misusing the category would presumably be a fraction of this percentage—a small and easily monitored group.

The heirs to the second major problem generated by the SSAS category are registrars and admission officers. Students entering a graduate extension classroom 70 miles away from the main campus often do so with little requisite admission or registration activity. Two years ago, it was not uncommon for the first official notice of a student's enrollment in a course to appear in the form of a final grade, handwritten on the back of a grade report sheet and submitted by the instructor (resulting in a few more gray hairs for those concerned with academic standards *and* state subsidies).

The final major problem generated by the category falls on the department chairman and the student. Because the SSAS student is off-campus and often unaware of degree program options, and the department chairman is equally unaware of an SSAS student's needs and aspirations, there is a real paucity of academic advising. As was noted above, many of the SSAS population simply lacked information on degree programs. But more significant is the finding that of those students surveyed, 79% would consider working toward a degree and nearly 66% specifically requested some sort of advising or guidance. This coupled with the indication that 80% of the students planned on being out of the SSAS category within two years points to two things:

(1) Specific program advisement is vital.

(2) The common conception of lifelong learners being preoccupied with personal growth should be adjusted to accommodate the specifically professional orientation of this group (e.g., only 3% of the sample expressed a preference for non-credit courses—the professional motivation for credit was apparent).

Efforts To Improve Services To SSAS Students

What then can institutions do to meet with the registration/admission and advising exigencies of non-degree categories such as SSAS? While there is probably no simple prescription applicable to all graduate institutions, existing activities at Bowling Green State University might well provide a beneficial model applicable to other institutions contemplating the administration of such a non-degree category.

Not surprisingly, the focus of solving admission/registration problems is communication. As alluded to above, students taking courses away from the main campus have difficulty decoding admission/registration procedures without the expertise of bureacratic interpreters. (Insurance policy writers and the IRS have no monopoly on translating simple concepts into esoteric jargon—many of us have been doing it for years.) So a major part of the effort at Bowling Green State University was to unscramble wordings and procedures to the point where even college graduates might understand and follow them. What resulted was the creation of easy-to-understand admission/registration packets which are now hand carried by special advisors to the first class meetings of extension courses. These advisors answer questions relating to the admission/registration procedure. Included in the packets are transcript "order forms" which are signed by the students authorizing the Office of Graduate and Extension Programs to send for their official transcripts; the students are later billed for the cost of transcripts. For students with special concerns, Extension Programs has extended its office hours on the main campus to evenings and Saturdays, an indispensable service for students with full-time jobs.

Improved admission/registration services, however, are not enough. Program advising is essential. Toward this end, advisors who facilitate the admission/registration process are also responsible for providing program advising. Special degree program pamphlets have been designed on which students can indicate the departments from which they would like to receive information, guidance, and materials. These advising activities center around recruiting qualified students into regular degree programs, and a special procedure has been established to identify such students: when applications are received from SSAS students by the Office of Graduate Admissions, the office sends one copy of the application to the appropriate department immediately. Departments are encouraged to communicate with and offer advisement to students. Because most of the students using this category are in the field of education, Extension Programs has the primary responsibility for monitoring these students. It is

this office which provides the lion's share of the services outlined above. In addition to these services, the Extension Programs' staff periodically contacts the SSAS students taking education courses and invites them to consider making application to a degree program. This effort is intensified as students reach the maximum number of hours transferrable into a degree program. It should be emphasized, however, that it is not the policy of Bowling Green State University Graduate College to admit all Special Standing students to degree programs; the purpose of the extensive advising efforts is to recruit and assist *qualified* students into regular programs or to assist them in selecting alternative career objectives.

Under pressure from society, students, and administrative expedients, non-degree graduate admission categories are becoming increasingly more appropriate. At Bowling Green State University, a graduate non-degree category (Special Standing for Advanced Study) has been shown to meet the needs of students and provide the institution with additional enrollment. Although there are problems inherent in such a configuration, intensified advising and assistance in cooperation with an extension program can ameliorate these difficulties.

At Bowling Green State University, the majority of students using the SSAS category are employed in the field of education. They enroll in courses for professional reasons and are desirous of gaining admission to degree programs.

From this report, it seems evident that merely establishing a non-degree category is not enough. With the establishment of such a category, an institution must commit itself to a new student population with special needs; avoiding this commitment would be a disservice to both institutions and students alike.

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Graduate Admissions For Minority Students

Mack H. Jones

Any serious discussion of graduate admission policy, for minorities or whomever, must be prefaced by a discussion of the goals giving rise to such policies for it is only by analyzing the logical relationship between the two that one can make an intelligent assessment of existing policies and constructive suggestions for change. With regard to minorities, such an analysis may reveal that the general goals upon which admission standards are based mitigate against equitable access by minorities to graduate education. If this is the case, to discuss the matter as a question of admission policy is to approach the problem tangentially rather than head-on and in the process, to obscure rather than clarify the issue at hand.

The over arching goals upon which admission standards of American universities are based may be summarized, perhaps a bit simplistically but nonetheless usefully, as follows: To produce a supply of competent professionals more or less consistent with labor market projections by identifying and enrolling the most capable individuals. Capability is determined largely by the quality of previous training which the individual has had rather than by an effort to assess the innate capability of the prospective graduate student.[1] Admission standards do not take into consideration group problems or needs. Nor do they allow for differential access to antecedent educational experiences by members of particular groups. The emphasis is placed upon the individual. The primary concern is not the extent to which the graduate experience may enhance the life chances of prospective graduate students directly and the larger society indirectly, but rather the focus is upon the extent to which the previous training of those admitted enhances the image or standing of the graduate department.

Given this orientation, there is a certain amount of dissonnance, if not outright contradiction, between the general goals of graduate institutions and the particular goals of minority groups. The oppression of minorities in the United States politico-economic system is institutionalized and therefore a group rather than an individual problem. The inequitable distribution of Blacks in graduate schools is a group phenomenon which, in my estimation, requires a group centered rather than an individualistic solution.

Moreover, contradictions between needs of minority groups and the interests of the larger society upon which admission standards are based are accentuated during periods of economic crisis such as the one we are currently experiencing, since graduate education is a crucial economic tool, not only for Blacks and other minorities, but for upwardly mobile whites as well. As one economist has pointed out,

> Except for the black who goes to graduate school, the total observed income from the end of schooling until retirement (at age 65) is maximized, beginning with schooling at the eight or ninth

> grade level. . . . After the twelfth grade, further investment in education among blacks is accompanied by a fall in total earnings between school and retirement, until the graduate level is reached.[2]

Thus the graduate school experience is a crucial factor in determining lifetime earnings of Black citizens and correlatively group advancement.

However, access for Blacks remain severely restricted. A recent study asserts that Blacks received less than one percent[3] of doctorates awarded in 1973 while another showed that only 4.4 percent of total graduate enrollment is Black.[4] And even these figures mask the skewed distribution of Blacks in terms of areas of concentration.

While Blacks and other minorities are faced with this acute need to increase the number of graduate students, the larger society is more concerned with a glut of Ph.D.'s on the market;[5] and concomitantly there is widespread support for efforts to reduce the supply to projected labor market demands.

In light of these circumstances, it is not difficult to understand why even the few haltering attempts to increase minority access to graduate education have been met with vocal outcries of reverse racism. But to understand the logic of these detractors, is not to condone. The fact remains that denial of equal access to post-graduate training reinforces the existing disparities in life chances between Blacks and whites and that present admission policies which perpetuate these inequities are more or less consistent with the general goals of graduate schools. Thus any changes in admission policies designed to insure equal access of Blacks and other minorities to graduate education must be preceded by a serious re-thinking of the goals of graduate education.

Such a re-thinking, at least in my view, must give serious attention to the changing role of graduate education in the American economy and culture. Graduate school is no longer the province of a special elite whose members because of their prior training and experiences, are uniquely prepared to pursue serious study. Graduate schools have joined secondary and undergraduate schools as societal structures which regulate entry into the labor force. The successful completion of graduate work becomes an entry ticket or a claim on certain scarce values; in many instances it is not so much what one knows or can do, but certification that one has had the graduate experience that makes the difference. The economy, of course, demands such capricious regulating structures; but if we are not disposed to restructuring the economy, we can at least insure that the impact of its capriciousness is randomly and not purposively distributed. Graduate admission policies should be revised so that a maximum number of citizens can have the graduate experience.

This, of course, would be only the beginning because any self-respecting graduate department must take steps to insure that its graduates meet certain standards of competence. Admission criteria should be designed to identify those who would seem to possess the innate capacity to satisfy such standards rather than identifying those whose prior training has more or less specifically equipped them to achieve such standards with minimum

difficulty. Failure to restructure admission criteria in this manner is to compound the injustices visited upon Blacks and other minorities at the secondary and undergraduate school levels. In a phrase, it is to say that the sins of your first grade experience shall be with ye always and with your children and their children . . .

How do we identify those with adequate innate capacities? Honesty requires that I say that I do not know. However, I do know that existing admission criteria, GRE and other standardized tests and grade point averages, etc. are poor indicators of future performance. Even letters of recommendation from undergraduate professors do not seem to be especially helpful. Over the last five to eight years many letters of recommendation about Black students (which I have read) seemed more concerned with the student's level of militance or socio-economic status than with academic promise. I shall never forget the letter from a Harvard professor which began "This is the kind of middle-class black student who should be supported."

To begin, I would suggest that various standardized tests (at both the graduate and undergraduate level) be used only as diagnostic devices to evaluate what the student knows rather than to assess what he or she may be able to do. Undergraduate institutions should adopt open admission policies for minorities reinforced by other appropriate reforms which would guarantee proportional representation among incoming students and also reduce the astronomical attrition rate of minorities.[6] Without such reforms at the undergraduate level, the question of graduate admissions is moot.

Graduate admission criteria for minorities should be based upon cumulative interviews, student academic records, and in depth, as opposed to perfunctory, letters of recommendation from undergraduate professors. Efforts should be made to insure that minorities are admitted proportionate to their numbers in the population.

Reforms in admission policies must be accompanied by adjustments in other phases of university life including financial aid for all those who need it, counseling, and curricula so that the students admitted will have a reasonable chance for success. One of the primary reasons for the high attrition rate among the Black students admitted under preferential arrangements of the late sixties and early seventies was the absence of systematic counseling programs which could help students to anticipate problems and develop strategies to obviate them. Instead of such counseling, minority students were admitted and either left to sink or swim in an environment for which they were not prepared or shunted aside and allowed to exist in intellectual Bantustans which were not considered to be part of real university life. The predictable failure of such programs was taken by many as evidence that open admission and other forms of compensatory preferential treatment are destined to fail. A more accurate assessment would be that open admission policies are destined to fail when they are not accompanied by other structural reforms.

Another telling, but sadly neglected factor which mitigates against Black success in graduate school is the ethnocentric, parochial curricula

particularly in education, humanities, and social sciences. Invariably, these curricula are based upon sets of normative assumptions which glorify and celebrate the white Anglo-Saxon Protestant male experience at the expense of others. To relate to such curricula, minorities, especially Blacks, are required to somehow rise above their own biographies and embrace a symbolic representation of reality which denies the validity—nay the reality—of their own experience. Such curricula alienate one from, rather than immerse one in, ones being. Thus proportional representation of minorities in graduate education must be accompanied by serious reforms designed to reduce the ethnocentric provincialism which now governs American education.

To many, these suggestions may appear to be unrealistic or impractical. I can anticipate the argument that the cost of the financial aid and counseling programs would be prohibitive. Would such programs be more costly than the space program? Certainly, social problems which threaten social peace are more important than celestial exploration.

Another response, I suspect, would be the argument that admission of minority students in the numbers I am suggesting would lower the quality of the various departments. My experience as chairperson of an innovative doctoral program in political science at Atlanta University, a historically Black graduate school suggests otherwise. We are now in the fifth year of our efforts which are being financed jointly by the Ford Foundation and the University. Our admission standards and supportive facilities are consistent with the suggestions made above. Two of our students have already completed the doctorate and another 22 have been admitted to candidacy. Within another five years we will have produced more Black Ph.D.s in political science than any other university in the country. And we are prepared to match our graduates with those of any other institution.

In summary, increasing the number of Blacks and other minorities who get into and who graduate from graduate school may not be the herculean task we often imagine it to be. The traditionally Black colleges of the South have demonstrated for more than a century that individuals who do not satisfy certain "objective" criteria can be educated. The public record of the achievements and contributions of such graduates is sufficient to contradict any detractors. Black professional schools such as Meharry and Howard schools of medicine have proven the point at that level. The same thing can be done throughout American graduate education. Revising admission criteria, however, is only the first step and it is the first step only because of its chronological position in the matriculation process. Changes in admission policy must be accompanied by synchronous modifications in other relevant aspects of university life.

These changes would make the university more egalitarian and less provincial. To be sure, they would be expensive, but are not the people the primary source of wealth?

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5. There are reasons to believe that this fear has been overstated, see National Board on Graduate Education, *op. cit.*
6. Even though one-half of Blacks now attend predominantly white institutions, as late as the 1968-69 academic year, 78 percent of Blacks receiving the baccalaureate did so from the historically Black colleges. See Sam Nabrit, "Reflections on the Future of Black Colleges," *Daedalus* (Summer) 1971, p. 663.

The Master's Degree

Moderator: E. Philip Bollier, *Tulane University*
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Hardy M. Edwards, Jr., *University of Georgia*

E. Philip Bollier

Good morning. The topic of this workshop session is "The Master's Degree." The members of the panel are Dean Giles T. Brown, California State University at Fullerton; Dean Hardy M. Edwards, Jr., University of Georgia; and myself, Associate Dean E. Philip Bollier, Tulane University. Each of us will make brief preliminary remarks about our topic, and then I will open the meeting to the floor with the hope that our remarks have stimulated you to both question and comment. Our remarks, I emphasize, are not intended to be exhaustive or exhausting, but simply to sketch out some of the problems posed by our topic which we think important enough for further discussion.

A workshop, of course, has a single purpose: to define a problem or problems and then seek solutions or at least the basis for solutions. Our first problem is implicit in the very way our topic is stated in the program: The Master's degree. There are implications in that singular designation which should give us immediate pause. Can we speak intelligibly about *the* Master's degree? We can speak so about the Master of Arts, the Master of Science, the Master of Education, and so on, but to speak about *the* Master's Degree is to speak about an abstraction which nowhere exists in actuality, an abstraction which, nevertheless, has had a profound impact, in my opinion, upon our thinking about particular master's programs.

What that impact is I personally became acutely aware of this past summer. As most of you know, CGS has a little brochure describing the Master's Degree. Since the statement was written ten years ago and is now out of print, the CGS Executive Committee appointed a committee to revise it. Dean Edwards and I are members under the chairmanship of Dean Dale R. Comstock, Central Washington State University. The Executive Committee now has our revision in hand and just yesterday approved a stylistically revised version of it.

Like our workshop, the original brochure was titled simply *The Master's Degree*, but despite its singular title, it discussed, naturally enough, master's programs in the plural. Two principal kinds of master's degrees are identified: (1) the research and teaching oriented degree—the M.A. and M.S.—and the professionally oriented degree—the M.Ed., the M.B.A., and the like. What justified the singular designation, The master's degrees, apparently, is the fact that all these degrees are awarded for substantial formal post-baccalaureate work in a specific discipline. Well, enough, but as our committee worked on revision, we discovered another hidden assumption, although we did not formulate it to ourselves at the time.

What is that assumption? It is two-fold: first, that the research master's,

the M.A. or the M.S., is *the* model degree, and second, that a research master's program is intended for the full-time resident student. In our committee revision of the original statement, we did recognize that professional degrees have somewhat different aims, that master's degrees now exist which are neither research nor professional, (Master of Liberal Arts, for example), and that part-time students and non-resident students enrolled in extension or off-campus programs are more and more common. Nevertheless, when all is said and done, we still adhered to the ideal of the master's degree implicit in the original document.

Broadly speaking, the master's degree indicates that the holder has mastered a program in a particular field beyond the baccalaureate level sufficiently to be prepared to use acquired knowledge and skill vocationally or otherwise without further formal study. In some fields, it may be a prerequisite for further study towards a more advanced degree. Under no circumstances, however, should it be awarded as a consolation for unsatisfactory progress towards a doctoral degree. Nor should it be awarded simply for the random accumulation of a certain number of course credits after attaining the baccalaureate. Rather, the master's degree should be awarded only when all requirements in a rationally coherent program designed to assure the mastery of specified knowledge and skills are satisified.

We did not arrive at this consensus without disagreements, but we did so, and our bias, if it can be called that, is evident in our recommendations about the names for the various kinds of degrees, which I take the liberty of quoting:

> (1) that the M.A. and the M.S. without further designation should name the degree for scholarly research and subject teaching-oriented master's programs; and that the Master of Education, the Master of Business Administration, the Master of Music, etc., should name the degree for the professionally-oriented programs;
>
> (2) that for master's degrees otherwise titled, the transcript of a graduate student's record should be consulted to determine the exact nature of the program represented, where the degree is to be a qualification for more advanced work or even for employment;
>
> (3) and that, finally, the number of names used for master's degrees should be held to an absolute minimum.

Now, since I personally believe in what I have called the ideal of the master's degree, I conclude that the basic problem is how we can maintain this ideal as a national standard, whether for the M.A. or M.S. or for any other kind of master's program and, at the same time, accommodate the legitimate demands for quite new kinds of programs for quite different kinds of students administered in quite non-traditional ways. I say

"maintain," but for many programs the more accurate word might be "revive" or even "establish." I regret to say that at Tulane even the M.A. and the M.S. programs have a non-thesis option these days, and the traditional research component has been eroded badly.

I am reminded of Mathew Arnold's remark over a century ago in his essay "The Function of Criticism at the Present Time." In censure of his Philistine contemporaries, Arnold said that they tend to want "the grand name without the grand thing," and he cited as an example an institution called "The British College of Health," which was not British and not a college, but a business establishment which sold a brand of pills reputed to cure all ills. The master's degree is, or at least was, a grand name for a grand thing, not as grand as the Doctor of Philosophy, of course, but grand nevertheless. I fear, and I suspect that many of you fear, that too often the term "master's" has become a sugar-coated name for academic placebos, programs (if they can be called programs) of little value except for the ego-gratification of the *soi-disant* student.

Well, whether or not these observations serve as a key note for our deliberations, I now call upon my fellow panelists who also have views of their own.

Some Aspects of The Master's Degree

Giles T. Brown

Although I may seem to represent those deans who come from institutions which offer only the master's degree, obviously my comments will not necessarily mirror their judgments. Hopefully, those colleagues who are here will agree with most of the points mentioned. At any event they will have the opportunity to speak for themselves later in the session.

Turmoil and stress seem to be the lot of humans and ivy walls have proved to be no effective barrier against those Philistines who would question and deny resources to graduate programs. Understandably, criticisms of graduate work have focussed principally on the doctor's degree but the master's degree should assume its full share of the barbs. Therefore, it is with zest and pleasure that I participate in this discussion on the current state of the master's degree. The topic is broad and the number of ideas which could be mentioned overwhelming. Here are a few, in no particular order.

Since the master's degree is usually considered the second in the trilogy of linear degrees, it has suffered from being neither the first nor the last, a kind of middleman. And a middleman is sometimes faceless and unknown. Yet students seek this degree. The most recent figures published by our own Council indicate that for every person who was awarded a Ph.D. by member institutions, there were about six who received the master's. Such a dramatic difference can only be partially explained by attrition and the

consolation-prize custom. Clearly many students find this degree a meaningful goal in itself, not subservient to any order.

Those who seek it form a varied group. Of the 1,800 who were awarded this degree by our University during the past three years, the average age was 33 years with the range from 22 to 63. Almost two-thirds had earned their baccalaureate from some other institution. About half were women. Obviously this student population does not represent the traditional view of a few years ago that graduate students should be young and unattached with a modicum of experiences beyond the halls of learning who would bring honor to their alma mater through a lifetime of activity.

To some extent, the master's degree has suffered, albeit unintentionally, from too close an association with the doctorate. From the plethora of national studies on graduate work, it is obvious that major attention has been on the Ph.D. Some conclusions reached, therefore, have been inappropriate and even erroneous when applied to the master's degree. One example may suffice. Much has been made of the so-called "overproduction" in graduate education or the "Ph.D. glut" with the resulting fear on the part of legislators, trustees, and the public that large numbers of newly-hooded degree holders are each year flooding the labor market, creating imbalances in employment and shattering individual plans, egos, and aspirations. Experience at our University and possibly yours does not support this assumption. In The California State University and Colleges, many students at the master's degree level, particularly in applied programs, are already employed and seek the advanced degree in order to enhance their opportunities of promotion and, indeed, in order to keep their jobs.

Graduate education, particularly at state supported institutions, should be willing to respond to societal needs when appropriate. A recent report prepared for the California legislature indicated that 8.4 million adults in California would like to continue their education but due to many reasons, including the lack of opportunity, are not able to do so. Graduate education should welcome this concern and take the initiative. "Delivery systems" should be devised and improved in which the resources of the faculty, library, and laboratories are made available not only during the week but during weekends and traditional academic holidays. Astute administration can solve the varied and complex problems which the operation of a university, at unusual times, creates. Already much has been done along these lines. Throughout The California State University system (19 campuses) there are a large number of degree programs which are available by evening-only study.

On our campus, the number of years between the award of the baccalaureate and the master's degree for the typical student averages eight years with a range from 1 to 37. Obviously many of these students return to formal education after a considerable break, demonstrating to some extent that this is an open society which provides for upward mobility. Their reentry into formal education is due to several reasons, including the desire to upgrade themselves in their current positions, to prepare for promotions and reassignments, to enter first careers after a delay due to such factors as the responsibility of rearing a family, to begin a second

career, or merely to enjoy the exhilaration of exploring at the cutting edge of knowledge. The need for careful advisement and for the selection of suitable prerequisite courses in order to up-date and ensure proper preparation for advanced work is essential and cannot be overemphasized. To work with students in this way is exciting and challenging for which ample budgetary provisions should be made.

Although most of our students attend part-time, they attain their degree goal expeditiously. The average time needed has been five semesters. The belief, popular in some quarters, that graduate students deliberately delay completion of their work, is not really accurate. Students, even part-time ones, should be encouraged to complete their degree within a specified time span.

Despite some distressing evidence to the contrary, the master's degree is not merely a fifth year composed of disconnected courses strung together like freight cars of a train. Quality control can be exercised effectively over part-time and full-time students as well as those whose education has been interrupted for a number of years. Graduate schools must insist on proper and meaningful culminating experiences at the conclusion of the degree program. In addition to the traditional methods of theses, projects, and comprehensive examinations, a new series of field work experiences and internships have arisen. These must be carefully reviewed to ensure that they truly synthesize the theoretical and pragmatic aspects of the program.

With regard to ensuring program quality, a vigorous process of program review needs to be instituted and maintained. Too often faculties insist that "smallness equals quality." Criteria must be defined. Qualitative program-review should lead to demonstrable program improvement and even, in certain cases, to dissolution of sub-standard programs. Only in this way can the public and statewide coordinating bodies be assured that campuses are behaving responsibly.

The titles given the many types of master's degrees are undoubtedly confusing to the public and possibly even to ourselves. Dividing lines between the liberal arts (generally represented by the M.A. and M.S.) and professional degrees are indistinct and debatable. Yet knowledge knows no boundaries. Those who sponsor the degree should take note and respond boldly. The roles of the researcher and technician do cross. And professional programs can have a respected component of research despite their functional goals. At the same time, liberal arts programs can and do prepare students for certain professions.

The rapid expansion of knowledge has been one of the conventional explanations for the lengthening of the time students remain in formal education. Statements have been made that the current A.A. degree of the community colleges is probably the equivalent of the high school diploma of a few years ago. Similarly the attainment of the master's has been equated with that of the baccalaureate of a former time. This devaluation of diplomas and degrees may well have occurred. But there is a counter-trend which can have profound implications for the worth and quality of the master's. In certain subjects, students are being introduced to more advanced material earlier. College algebra is being taught in high

schools and the advanced placement programs are operating successfully and effectively. Should this trend continue, the level of work which should be expected at the master's degree level could be markedly raised. This might be a welcome development.

Declining enrollments in the elementary and secondary schools exude gloom and possibly foretell similar experiences for graduate education. But the horizon may not be entirely dreary. Although in our state it is estimated that in the 1980's the number of 18 to 21 year-olds will drop 12%, one study, commissioned by the Legislature, expressed the thought that these decreased numbers will permit redirection of existing government resources to serve better the educational needs of adults. Even the discussion of the possibility of a redirection of funds is a hopeful sign.

Today, the master's degree exists side by side with its colleagues, the baccalaureate and the doctorate. To maintain it as a viable, desirable, and worthy academic experience is a goal challenging the best in us. May those institutions, including some with great prestige, that still consider the degree merely a stepping stone to something else reconsider their position and the degree's potential and possibilities.

I have tried to be brief to the point of being cursory in order to allow maximum time for comments from all of us. In summary and somewhat facetiously, two questions might be asked and answered:

What is the current state of the master's degree?

In my opinion it is good and improving.

What of the future?

Great, if we but embrace the opportunities present.

Luncheon

Tuesday, December 2, 12:45 p.m.-2:45 p.m.

Chairman: S. D. Shirley Spragg, *University of Rochester*
Presentation of Gustave O. Arlt Award in the Humanities
Guest Speaker: John D. Millett,
Academy for Educational Development, Inc.

S. D. Shirley Spragg

I have a number of pleasant duties to perform today. One is to introduce to you my colleagues on the Executive Committee of CGS. Starting at my far left, Charles Lester of Emory University; Margaret Perry of the University of Tennessee; Earle Canfield, Drake University; Benjamin Hudson, Atlanta University; Joe Gerber, Stephen F. Austin State University; Sanford Elberg, University of California at Berkeley; Boyd Page; Wendell Bragonier, Colorado State University; Donald White, Boston College; Chester McKee, Mississippi State University; Duane Spriesterbach, University of Iowa; and Lyle Jones, University of North Carolina at Chapel Hill.

We have in the room several ex-chairmen of the Council of Graduate Schools, two of them sitting on the platform, Charles Lester and Boyd Page. There are three others in the audience: Jacob Cobb, Alvin Proctor, and David Deener.

It is now my very pleasant duty to present the Gustave O. Arlt Award in the Humanities. Let me remind you, as I am sure most of you are well aware, that the Gustave O. Arlt Award in the Humanities is given to a young scholar teaching in the Humanities at an American university who has earned the doctorate within the past five years and has published a book deemed of outstanding scholarly significance. Previous awards have been made in the fields of English, History, and Linguistics. The selection of the person to receive the Gustave O. Arlt Award is by recommendation of a committee, which at present has as its Chairman Dean Herbert Weisinger of Stony Brook. Dean Phyllis Bober of Bryn Mawr College and Dean Alvin Kernan of Princeton are also serving on the committee.

It is my very great pleasure to announce that this year's recipient of the Gustave O. Arlt Award is Dr. Margherita Frankel, Assistant Professor of Italian at New York University. Dr. Frankel received her Bachelor's degree from Brooklyn College in 1968 and her Ph.D. from New York University in 1973. During her career as a graduate student, she has received numerous fellowships and other awards including a Woodrow Wilson Disseration Fellowship.

Our Fourth Annual Award is being presented to Dr. Frankel in recognition of her book entitled *Le Code Dantesque dans l'Oeuvre de Rimbaud*. Dr. Frankel's work was published in 1975 and has been described as bringing new insights to one of the most extensively interpreted works of all time and providing new evidence of Dante's impact on Rimbaud's writing.

Margherita Frankel

I am very happy and proud for this award, and I want to thank the Council, Dr. Page, and the Committee that selected my book. I hope it is a well deserved recognition. Thank you.

Gustave O. Arlt

The first thing that I wish to say, of course, is to congratulate Dr. Frankel from the bottom of my heart for the award that she received today. It is my hope that this will be the beginning of a career of distinction and importance in her future.

A number of people have said to me in the past twenty-four hours that the award was being given to a woman. My reply to that in every instance was, "She may be a woman in private life, but she holds the true title in the English language about which both sexes tend to agree have no sex whatever—Doctor and Professor."

When this award was established, the Executive Committee of the Council of Graduate Schools very generously conferred upon me the right to determine each year the area of the Humanities in which the award would be given for the coming year. We began with the field of History, then English, and then Linguistics, and finally for this year my own field, Modern Languages. For next year, I would like to suggest to the Executive Committee that the area to be so honored be the field of Philosophy, the oldest and most highly recognized discipline in the Humanities.

S. D. Shirley Spragg

It is now my very great pleasure to introduce to you Dr. John D. Millett, distinguished educator and administrator. Following receipt of his Ph.D. at Columbia in the late 1930's and following active duty during World War II, he became a member of the faculty of Public Administration at Columbia University, where he taught and did research until 1953. He then became President at Miami University in Oxford, Ohio. He remained there until 1964 when he became Chancellor of the Ohio Board of Regents, a post he held until 1972. Since 1972 Dr. Millett has been Senior Vice President and Director of the Management Division at the Academy for Educational Development in Washington, D.C. His talk to us today will be on "Future Economic Growth: The Dilemma of Graduate Education."

Future Economic Growth: The Dilemma of Graduate Education

John D. Millett

The oft-quoted aphorism of Clemenceau about war and generals can also be applied to economics and economists. Not being an economist myself, but much convinced of the importance of economics, I make bold to inquire into the mysteries of this most esoteric of the behavioral sciences. I do so for a good reason. Whether or not we like the situation, it seems clearly evident to me that the future welfare of graduate education in the United States is circumscribed by considerations of the economic benefit to be derived from graduate education and by considerations of the economic need for graduate education. I think it can be accurately asserted that graduate education has enjoyed a golden age since the end of World War II because of its economic contributions. And I think it can be equally well said that the future of graduate education is clouded because of uncertainties about the future economic contributions of graduate education.

As a one-time, if not current, political scientists, I have long been intrigued by the politics of economic decision-making in both our economy and our polity. A very substantial part of this decision-making process appears to me to be a matter of chance, of the peculiar conjunction of circumstance and leadership, of a peculiar mixture of events and actions. In large part the economic conditions of the past thirty years in the United States seem to me to have just happened; if there was a master plan for these events, I have never been able to identify it. Perhaps the invisible hand postulated by Adam Smith was indeed operative.

I do not intend to suggest that there was no planning, either in the economy, in governments, or in higher education in the post-war years. On the contrary, there were many plans, some of which did eventuate in action. But if there was a central purpose in this planning other than the objective of economic growth and material prosperity, I have been unaware of it.

As I look back upon the history of higher education since 1945, one outstanding fact demands my attention. That fact is that higher education was largely perceived as an important contributing influence for economic growth and prosperity. Higher education in general, and graduate education in particular, profited from this perception. In the immediate post-war years there was the veterans' bulge in enrollments to accommodate. Then there was a continuing concern for federal government sponsorship of research needed first for national defense and secondly for space exploration. The creation of the National Science Foundation by Act of Congress in 1950 was largely the consequence of the remarkable mobilization of national scientific resources by Vannevar Bush during World War II, reinforced by his equally influential report on research as an endless frontier published in 1945. The Russians assisted our national concern with defense by their launching of Sputnik in 1957. Do not forget that the

major piece of legislation enacted in 1958 was labelled the National Defense Education Act.

Accompanying this concern for defense and space exploration was our overwhelming national preoccupation with health. When I look at the budgets of our medical schools, or of our health science centers as the Carnegie Commission more properly designated them, I am uncertain whether to rejoice or to despair because we are a society of hypochondriacs. But the consequence of our anxieties has been a remarkable development in the knowledge of health science and in the provision of new drugs following upon the discoveries utilized in World War II. We are still trying to devise an economical and efficient system of health delivery for our health science and our health products.

In reviewing the past thirty years, I see substantial evidence that the contributions of graduate education were largely contributions in the biological and physical sciences and in mathematics, including their applications in the health sciences, the engineering sciences, the agricultural sciences, and the information sciences. For example, how remarkable indeed has been the advances in agricultural sciences that have made our nation the leading producer of agricultural commodities in the world with the smallest proportion of our labor force, under 4 percent, devoted to this output. It was upon the foundation of the so-called "hard sciences" that were built major contributions of graduate education to the economic well-being of our nation, contributions that enhanced public appreciation and public support for all higher education in our recent history.

The other major economic contribution of higher education in the post-war years was that of providing the educated talent for the remarkable shifts taking place in the composition of the American labor force. While contracting agricultural employment by more than one-half and while expanding only marginally the employment on the nation's production lines, our economy in the past thirty years vastly expanded its employment requirements in the professions, in managerial posts, in financial affairs, and in technician jobs.

It was higher education, including technical education, that was called upon to provide this needed educated talent. Graduate education was indispensable, both in the direct output of educated talent and in the preparation of an expanding faculty to provide education for students. The response of higher education to the needs of a changing labor market was outstanding. It was higher education that helped our society and our economy to enter its post-industrial era.

Today these economic circumstances are drastically changed. The demand for educated talent has subsided. Now, except for a few specialized areas such as in the health professions, we hear about surpluses rather than shortages of educated talent. There are economists who tell us that our labor force will confront a saturation of educated talent for the next twenty years, if not longer. There is a widespread assumption that the changes in the composition of our labor force have come to an end, that replacement of talent rather than an expansion of talent will henceforth be the order of the day. With an output of 35,000 doctoral degrees a year, we

confront an effective labor force demand for perhaps 9,000 or 10,000 doctoral recipients a year. We are told that graduate education should be a declining enterprise, and we are inexperienced in and unknowledgeable about the vicissitudes of contraction.

The national preoccupation with defense has subsided. Much as many of us in the academic world may have disapproved of the political behavior of President Nixon, if our first concern was our own economic well-being we might well have been even more critical of Nixon's foreign policy. A relaxation of the tensions of the Cold War and the realization that the United States could not successfully defend some foreign regimes from communist inspired agression have served to alter research priorities. National needs at home have become more urgent than sophisticated weapons systems. Again, adjustments in research endeavor have been asked of our graduate education.

Then there is the very uncertainty today whether or not economic growth and national prosperity are proper policy objectives. We are told on the one hand that there are limits to economic growth. There are fears about the adequacy of raw material supplies and of energy resources. There are fears about our production technology and output in relation to our environment. Can we reduce pollution and still enjoy economic growth? On the other hand, there is talk that the United States consumes too large a proportion of the world's resources, and there is the assertion from time to time that our output of goods and services should be more widely shared with developing nations. Sweden has recently boasted of the fact that its international aid expenditures had reached one percent of its gross national product, with an implication that as a nation the United States should be ashamed of its failure to do likewise. Raw material exporting countries talk about trying to emulate the behavior of the international petroleum cartel in forcing up the prices we pay for our imports.

It is clear, I believe, that the economic future of the United States will determine the future of higher education and of graduate education in this country. Beyond this expectation lies a fateful dilemma: can higher education in the next twenty-five years make a contribution to economic well-being commensurate with its contribution of the past thirty years; and if higher education cannot make such a contribution what claim will it have upon the available economic resources of our society? If higher education in general, and graduate education in particular, can and does contribute substantially to a public perception of future economic well-being, higher education as a social institution will be highly valued as an essential social utility. If higher education has no major new contribution to make to the future material prosperity of America, then I see little reason to expect future material prosperity for higher education.

The future of the American economy is substantially in doubt. Economic growth is uncertain. Inflation is persistent. Unemployment is sizeable; poverty remains present. The thesis propounded by the two reports from the Club of Rome and by some economists is that the United States is approaching the limits of economic growth. One limit is that of energy supply. Another limit is the supply of needed raw materials. A third

limit is that of pollution, the degradation of the environment to the point where our planet earth can no longer sustain current standards of material well-being.

No one speaks today of any shortage of population, of labor force, or even of educated talent. And while some fears are voiced that as an economy we are not saving the funds needed for capital investment in new sources of energy and in pollution-free production facilities, a shortage of capital does not appear at the moment to be a primary limitation to future economic growth. The future capacity of our technology to resolve problems of energy and raw materials and pollution is at stake, or the future capacity of our social inventiveness to devise new and satisfactory life styles is at stake. Can higher education, can graduate education, address these national needs and offer solutions of comparable importance to the development of atomic energy, of micro-wave communication, of health preserving drugs, of space exploration, of information storage and computation?

It has been estimated that out of every one dollar of Gross National Product, 12 percent is contributed by agriculture, mining, and construction; 18 percent is contributed by durable goods manufacturing; 17 percent is contributed by non-durable goods manufacturing; and 53 percent is contributed by service businesses, including government. Here in output terms rather than in labor market employment inputs is convincing evidence that the American economy has indeed entered a post-industrial phase. It is an amazing circumstance that 53 percent of all productive output in the United States should now be the output of service enterprises. This figure indicates clearly the extent to which we Americans now consume services rather than goods: distribution services, financial services, transportation services, utility services, health services, recreation and entertainment services, educational services, cultural services, personal care services, maintenance services, and governmental services.

It seems evident that the economics of a service oriented society have been little examined, and even less understood. With some notable exceptions, the service businesses are labor intensive, making only modest use of machinery and equipment. The cost of the service rendered is in large part the cost of personal performance. These costs have tended to rise in direct relationship to the compensation of personnel. Professional organization and labor organization have tended to maintain the levels of compensation as these are increased from time to time.

It is tempting at this point to pause to look at the labor intensive character of the higher education enterprise. It has been estimated, for example, that from 70 to 75 percent of the expenditures of colleges and universities are for personal compensation. About 38 percent of the payroll will go to compensation of the instructional and research staff, about 10 percent to the professional support and administrative staff, and about 25 percent to the non-professional staff. There is considerable variation in these proportions, of course, depending upon the scope of the residence hall operation of a college or university. There is a study by an economist prepared for the Carnegie Commission on Higher Education which tells us

that in the years from 1930 to nearly 1970 there was no productivity increase in higher education, that in those nearly 40 years, the dollar input resources in real terms did not decrease per unit of output but tended to increase somewhat. If this record is indeed true, then higher education has achieved higher costs without any corresponding increase in output. Such higher costs must be paid for by a redistribution of income or by inflation. We need to know much the same kind of data for all service businesses.

The importance to graduate education in this record is obvious. Graduate education contributed substantially to the transformation of the American economy from an industrial economy to a post-industrial economy. Much of the status and respect given to graduate education in the past thirty years was achieved by this contribution. The question now is what does graduate education have to contribute to the maintenance of this post-industrial economy, or to the still further transformation of our economy. I do not know what that contribution may be. But I am convinced that the status and respect accorded to graduate education in the next twenty-five years will reflect that contribution, if any.

It is being widely said today that the general public has lost confidence in American private business enterprise. A recent little booklet published by the Conference Board on the future of our mixed economy gives considerable attention to this situation. One pollster attributed this lack of confidence in recent years to three factors: (1) Ralph Nader and his charges of a lack of concern on the part of business in product safety; (2) the Watergate revelations of illegal and secret contributions by business to the Nixon campaign of 1972; and (3) the Arab oil boycott of 1973 and the subsequent behavior of American oil companies. Regardless of specific attitudes and possible reasons for them, I think we may say that the 1970's are witnessing a profound concern with the viability of our current structure of social institutions and their performance. This concern centers especially in issues of economic activity, employment, inflation, and poverty. I believe there is a widespread anxiety that our economic system and our political system may not be able to resolve these issues of econmic activity, employment, inflation, and poverty to the satisfaction of a substantial portion of our populace.

As I look ahead to the next twenty-five years, to the year 2000, I see considerable evidence that the problems of our nation may become primarily problems of social and institutional behavior. How do we mobilize social institutions and economic enterprises to meet our future energy requirements? How do we persuade individuals and enterprises to reduce their consumption of energy, and will such a reduction lead to further unemployment and reduced standards of living for all? How do we mobilize social institutions and economic enterprises to discover new sources of raw materials, or new substitutes for raw materials in short supply? How do we persuade individuals and enterprises to reduce their consumption of raw materials, and will such a reduction lead to further unemployment and reduced standards of living for all? How do we mobilize social institutions and economic enterprises to curtail the pollution of our environment? How do we persuade individuals and enterprises to reduce

their pollution practices, and will such a reduction lead to further unemployment and reduced standards of living for all?

These are essentially questions addressed to the behavioral sciences. What will our universities have to contribute in instruction, research, and public service to the answering of these questions? I fear that the behavioral sciences have very little at the moment to contribute in the way of knowledge and of models for suggesting how various social groupings and enterprises might respond to these questions within the context of a society of pluralistic institutions and individual values.

Let us look even farther ahead. Let us suppose that our research and our available information suggest that for the United States economic growth is no longer a sustainable process. Let us suppose that available energy resources, avilable raw material resources, and essential environmental standards dictate a future of zero economic growth for American society. Then we are confronted with new questions involving social institutions and economic enterprise. How shall we distribute the income from a static output of goods and services? How shall we allocate available resources of labor, raw materials, energy, and capital to the production of a restricted output of goods and services? How do we arrange change of output within a limited output? How do we motivate people and enterprises to produce the maximum output available from limited inputs of energy, raw materials, and environmental contamination? How does the role of higher education change, and the role of graduate education change, in a society of zero economic growth? And what kind of political and economic organization must be established in order to ensure that limitations upon economic growth are observed?

These questions appear to me to stagger the academic imagination, as indeed they must stagger our social imagination. I fully understand a reluctance even to ask the questions, let alone to begin to explore them. These questions are frightening in their implications for American society as it has evolved on the North American continent since 1607. I can well imagine a public outcry of immense proportion to any inquiry looking to the development of institutions appropriate to a society embracing zero economic growth. And of course I must then ask the oldest question of all in philosophical discourse: do ideas influence social institutions and social behavior or do social institutions and social behavior produce their own rationality? Only the intellect of an Arnold Toynbee is competent to grapple with that question, and I for one have found Toynbee's answer drawn from historical experience uncertain and equivocal.

If higher education, and graduate education, have little to say about the improved functioning of our social institutions and processes, there remains yet another possibility. In the more conservative journals of our day there rages a considerable debate about the meaning of civic virtue. Several propositions are often set forth. It is said that a democratic society may be expected to produce affluence and to maintain civil liberties but is little concerned with virtue. A democracy, so it is claimed, exists by reason of compromise and mutual self-interest but evidences little if any capacity to promote a public good that may run counter to private interest. And it is

suggested that if any institution in a free society should be concerned to propound civic virtue or public good, it should be higher education.

Is it reasonable to assume that higher education could successfully assume the burden of education for civic virtue? If this were to be attempted, I am sure it would have to begin with the scholarship of graduate education. Should it be attempted? Can it be done? Both critics and defenders of higher education would tend to answer both questions in the negative, but for different reasons. The critics argue that higher education has lost any internal capacity to undertake education for civic virtue. Defenders argue that higher education is a social institution to expand knowledge and to evaluate social performance critically, but not to propogandize a particular creed. Nor can higher education as a social institution seek to replace other social institutions, especially those institutions that decide human conduct.

As an example of the problem, let met cite a recent report prepared for one of the leading general purpose foundations in the United States that correlates civic virtue with education for a no-growth economy. Let us suppose for a moment that civic virtue can be equated with a commitment to zero economic growth. We are then confronted with two fundamental issues. How does higher education, or graduate education, convince all faculty members that this commitment is indeed the meaning of civic virtue? And what does higher education then do with the dissenters?

For good or ill, colleges and universities function in large part as "organized anarchies," to use the phrase of Cohen and March. Our colleges and universities seek to avoid any dogmatic orthodoxy, although there are some critics who question this assertion insofar as the social sciences and humanities are concerned. Higher education in the United States practices an individualism of belief, an individualism of epistemology. So long as our current society exists I cannot conceive of a change in this situation. Any planned endeavor to achieve an end of this individualism would signal an end to higher education as we know it, and an end to a free society.

If there are viable alternatives in our society to zero economic growth, and I for one hope mightily that these alternatives can be found and utilized, then I cannot imagine any other institution except higher education that can be expected to contribute more to their exploration and discovery. This exploration is the most urgent task confronting graduate instruction, research, and public service in the United States. And upon the quality of this exploration rests the fate of both graduate education and higher education.

Perhaps it is futile to think that the knowledge and development that provided us with atomic energy, computers, synthetic materials, microwave communication, laser beams, and chemotherapy can also provide us with expanded sources of energy, new raw materials, a protected environment, and a set of social institutions competent to their orderly achievement. I know not what higher education, what graduate education, can achieve in the next twenty-five years. But I do know that graduate education is either equal to this challenge or graduate education has little to expect from American society in the remainder of this century.

Third Plenary Session

BUSINESS MEETING

Tuesday, December 2, 1975, 3:00 p.m.-5:00 p.m.

CHAIRMAN'S ADDRESS

S. D. S. Spragg

A Look Backward and Forward

As one who has served as a graduate dean for a decade and a half—through the golden 1960's and into the lean 1970's—and who has recently attained a new status which provides an opportunity for broader vision and greater objectivity (but doesn't guarantee it!)—I am pleased to have this opportunity to make a few comments on some of our past problems and some of our present ones. Perhaps some morals will emerge; I can't promise that. First, a backward look—and quite a way back.

In 1934—forty-one years ago—the Association of American Universities held its annual meeting in October at the University of Chicago. The AAU was composed at that time of 28 of the leading research universities. Its annual meetings were attended typically by the president and the graduate dean of the member institutions, and the papers and discussions were chiefly on matters related to graduate education. You will recall that by 1934 the country had been for some time in the trough of the "Great Depression" of the 1930's. A few of you in this room will remember it at first-hand; most of you know something about it at second-hand, as a somber chapter in our history.

One of the items on the AAU 1934 program was a symposium entitled "The Outlook for the Placement of Graduate Students." Another was a paper on "The Training and Utilization of Advanced Students of Mathematics and Science." Still another paper was on "The Secondary School as a Career for the Doctor of Philosophy." (One can detect a note of worried urgency there!) And finally at this session was a paper entitled, "A Survey of the Economic Condition of the Profession."

I should like to make a few comments on some of the materials presented in these 1934 papers which may have more than passing interest for those of us involved with graduate education in the mid-1970's.

The session on problems of placing graduates concerned itself mainly with the fields of mathematics and science. A small survey of fresh Ph.D.s in mathematics showed that by October 1934 from a quarter to a third had not found satisfactory employment, with about 10% unemployed. Severe unemployment among chemists was also cited. The paper then looked at future demands for doctors of philosophy and noted with some pessimism that not only had college enrollments been falling during the early 1930's, but that grade and high school enrollments in the cities were declining and

predicted that college enrollments would cease to grow within ten years. (The clouded crystal ball!) This 1934 paper posed the question whether we should limit the output of doctorates while significant unemployment exists among present degree holders, and it concluded with about the same position that many of us have worked our way to in the recent past; namely, that the well-qualified student *should* nevertheless be encouraged to the doctorate, but from the beginning should be thoroughly and realistically informed about employment prospects.

The paper on this 1934 program which examined the possible opportunities for placing new Ph.D.s in high school positions began by pointing out the serious decline in appointments to college and university positions from the 1920's to the early 1930's, a decrease of about 35% overall but as high as 47% in the land-grant institutions. The author of the paper had attempted to discover, by a letter-type survey of high school administrators, what the prospects might be for Ph.D. holders to get high school jobs, and the results were pretty negative. Among the comments received from these potential employers: "they'd be misfits," "over-qualified," "would insist on being called 'doctor'," "wouldn't stay any longer than they had to," and so forth. Does this have a familiar ring to those of you trying to place your Ph.D.s in two-year colleges?

The paper surveying the economic status of the academic profession in 1934 had some grim aspects. It pointed out that until 1931 salary cuts among faculty were not an important factor. However, by 1934 cuts had been made by virtually all institutions. Salary reductions of 15-20% became common. Even so, lawyers were faring worse (down 39% on the average), also consulting engineers (down 58%). Since the cost of living index was also down over 20%, things weren't quite so bad as these figures by themselves would suggest.

However, some faculty salary cuts were severe. The paper gave as an example the University of North Dakota: in 1931-32 the average salary there for professors was $3,650; by 1933-34 it had dropped to $1,914.

There was a ray of light. The survey showed that in 1934, some 106 institutions planned to give raises for the following year, and only 66 planned to make further cuts.

Finally, this 1934 survey predicted a decreasing demand for college and university teachers, pointing out the population of the country was predicted to cease growing by about 1950, that high school enrollments were approaching the saturation point, and that college and university enrollments in recent years had been declining relative to high school enrollment. In 1934, college enrollment was estimated to be 1,250,000 and the author of the paper felt that it would be optimistic indeed to predict that in the next 20 to 30 years it would rise above 2,000,000. From then on he saw the demand for college teachers shifting from expansion to purely a replacement function.

I have called your attention to these words of our 1934 colleagues to remind us first, that some of our recent problems are perennial and second, how wrong—how amusingly wrong—our earnest predictions can be with respect to the supply of and demand for our product. Caution is clearly a

virtue here; the confident seer should be eyed suspiciously.

In the late 1930's some of these academic problems were alleviated, and the end of the depression was hastened, by the imminence and then the reality of World War II. After that it was a new ball game—veterans with educational support on the G.I. bill, the baby boom of the 1940's, and rising social and economic expectations—all combined to invalidate the best predictions of the 1930's. One can only hope and pray that it will not take another holocaust to end the present recession; if it does it might be a very final ending indeed.

As we consider the academic situation in the fall of 1975 and compare it with some of the problems that our colleagues were worrying about in that depressed period forty years ago, it is clear that some of our current problems are indeed perennial—I was tempted to say timeless—but there are others that seem more nearly to be peculiar to the present state of our society, governmental activities, and our social institutions.

It is true that difficulties in placing our graduates (especially our Ph.D. graduates) in appropriate positions are in many respects as severe as they were in the 1930's. We have today what we believe to be more sophisticated projection and forecasting techniques (which are still no better than the assumptions on which they are based) which predict decreasing opportunities for academic employment in the decades ahead. And we too are faced, as were our 1934 colleagues, with problems of whether we should restrict our output of doctorates, of how to discover and develop jobs and careers for our graduates in addition to the traditional ones (and our successes here have so far not been impressive), and how to adapt our offerings to the changing needs of society.

We too are faced, we are told, with the prospects of stabilization and even decrese in the college and graduate school population and should plan accordingly. But what if the prognosticators are mistaken about future college and graduate school enrollments, as were those in 1934? Perhaps in the years ahead we may see a large increase in demand for adult education of a non-traditional sort at the post-baccalaureate level, with a significant increase in demand for graduate work for what might be called "self-fulfillment" and general purposes, as well as for mid-career changes, or for refresher purposes. Such developments could change markedly the picture painted by currently favored projections.

Some of our problems however seem to be more nearly uniquely a function of our present state of affairs and of increasing involvement by government with what we used to consider the autonomy of college and university affairs. I should like to comment on a few of these—others could be explored if time permitted.

In the admission and retention of students, and in the hiring and retention of faculty, recent legislation and the implementing governmental regulations—although aimed at commendable social goals—are posing some difficult and conflicting situations for college and university administrators, often including graduate deans.

For example: if a graduate academic department has, say, ten openings for new graduate students for the next fall, the traditional aim of the

department has been to try to recruit and matriculate the ten top persons in its applicant pool on the basis of merit. This aim is being challenged, both within and without, by societal considerations and reinforced by equal opportunity regulations. The dilemma can be a difficult one, and the situation is sometimes exacerbated by conflicting signals from the regulators. At one time we hoped that the *De Funis* case would provide some clarification, but the Supreme Court refused to face the substantive issue, and we are still without the guidance of a clear legal decision in this area. I am not all sanguine that we shall have one in the near future, and I believe that for some time we shall be walking a tightrope, balancing as best we can among the vectors of merit and equity and opportunity, and the evils of discrimination, direct and reverse.

Similarly, in the recruitment of persons for entry into jobs on a faculty, we are at times faced with conflicts between academic goals and standards and government regulations, and are under a good deal of pressure to accept for the university an industrial model of personnel relationships which does violence to the academic situation. The industrial model would, among other things, ask us to state minimum standards for the hiring of, say, a new assistant professor of psychology, so that any applicant who met or exceeded these standards would be labelled "qualified" and the decision whether to hire could then be based on other considerations. However, most department chairmen and deans are deeply concerned with building as strong a department as possible, and will try to hire the "best" candidate, who is typically defined as the one who appears most likely to become a "star" in his field ten years hence—an outstanding teacher-scholar-researcher. This traditional and strong motivation toward building departmental excellence may find itself at times in conflict with other commendable social goals.

I see no easy solution to this dilemma. I believe that deans and department chairmen are going to continue to be troubled by this problem in the period ahead, but I also believe that for the integrity of the academic enterprise we must resist vigorously attempts to impose an industrial model and its criteria on our operations.

Differing governmental regulations are imposing not only high costs on colleges and universities, but also creating at times serious conflicts. The Internal Revenue Service's regulations on non-discrimination ask a college to keep a file for three years on each person rejected for admission, a job, or a scholarship, complete with reasons for the negative action—or risk losing its tax exempt status. In contrast HEW, in rules developed to administer the Buckley amendment, wants these files to be free of judgmental and other non-factual entries—at the risk of losing Federal grants to the institution. In a recently reported example, the President of Dartmouth College was quoted as follows: "It happened recently that our records were getting audited coincidentally by inspectors from both agencies (HEW & IRS) who were giving us completely conflicting signals. Yet, when we tried to have them sit down together to iron out their interagency differences, they refused." (*N.Y. Times*, Nov. 12, 1975)

I have very recently learned that the IRS is preparing some revisions of

its regulations in this area, designed to reduce some of the conflicts and excessive reporting requirements. May this worthy aim be realized!

Combatting such conflicting and excessive demands is going to require the concerted and coordinated efforts of organizations such as the ACE, the AAU, the CGS, and other groups concerned with higher and graduate education. We haven't much chance of being successful individually, so we must resist collectively the excessive intrusions by government into the carrying out of our proper academic functions. On the other hand, we shall have to adjust to being more accountable for our decisions and our policies than we traditionally have been, and more responsive to social goals and needs. And to reiterate, we must above all resist being forced into the Procrustean bed of the industrial model of an organization—in our relations with government, with faculty and students, and with the public.

We are at present in a period which in other ways is testing the relationships between faculty (and graduate assistants and fellows) and the institutions which employ them. Faculty members have traditionally been regarded—and have regarded themselves—as being in essentially a professional relationship with the institutions which employ them, rather than in the usual employer-employee relationship of industry. Prominent among such professional responsibilities are the evaluation of one's peers for purposes of promotion and retention, the establishing and revising of curriculum and degree requirements, and judgments regarding applicants and students.

The present tendency toward faculty unionization is still quite small among our graduate universities. If it should grow, what effects will this have on faculty members' professional responsibilities in carrying out their jobs, in relation to their institution, their peers, their students? If factors other than individual merit (such as seniority, union bargaining agreements, etc.) become increasingly important in determining a faculty member's salary, retention, and promotion, what price will this exact from his or her status as a professional person? If the workers in the college cafeteria, or the graduate teaching assistants, strike against the institution, how does the faculty member resolve his professional and his employee obligations? In some recent instances, the medical staff and house officers of teaching hospitals involved in strikes have been deeply split over their proper roles and priorities in such situations. We could be, too.

Organizations can also be caught up in this dilemma. Organizations such as the AAUP have traditionally regarded themselves as *professional* organizations, but have recently entered the field of union activities and have offered to serve as bargaining agents for faculty groups. What will be the resulting costs to the professional stature and effectiveness of such groups?

I personally do not see a unionization movement making much headway among the graduate universities. The ethos of the effective teacher-scholar-researcher, and the values he inculcates in his graduate students are, I am confident, such that he and they will strongly prefer to be judged and rewarded on the basis of their individual merits rather than by categorical procedures. But I am prepared to be told that my view is

archaic, and perhaps five years from now I'll have to eat these words. I hope not.

In another area of present concern, will the contrasts in the financing of post-baccalaureate students in different fields continue as in the past? Professional school students (e.g., in law, medicine, business) have traditionally been self-supporting (which includes loans, family support, etc.). Scholarships and fellowships and other financial aid have been relatively scarce for these students and have typically been based on financial need rather than on merit. In these fields the assumption has been that financial returns to the graduates are high and come relatively promptly, and thus they could be expected to make a significant investment against future earnings.

In contrast, graduate students in the arts and sciences have typically received some form of financial support, primarily based on merit considerations. The rationale has been that, while there are significant returns to society from their contributions, the returns to the individual entering an academic career are relatively low, and come slowly.

But the picture seems to be changing on both sides. Professional schools are expanding their opportunities for needy and minority students through increased amounts of financial aid—fellowships, scholarships, and subsidized loans. However, they are still based primarily on financial need rather than being merit awards.

On the graduate student side, the anticipated personal returns in an academic career have improved markedly in the last decade or so. During this period faculty salaries have increased rapidly relative to many other careers. Thus an investment in graduate education became more attractive. However, societal subsidies for graduate education have been decreasing in the past few years, due partly to perceived surpluses and projected enrollment stabilization. Due at least in part to these somewhat conflicting considerations, borrowing on the part of graduate students has been increasing. The basing of aid on financial need, at least in part, has also been on the increase, and will probably become an even more significant factor.

As a result of these factors I anticipate in the period ahead some further convergence of the professional school and the graduate school models of financing post-baccalaureate education, especially with respect to self-support and borrowing on the part of graduate students.

Despite the stresses and the problems which trouble us in our institutions and our society, I am, to paraphrase Merrill Lynch, "bullish" on graduate education. It continues to render valuable services to society, it has proven itself to be responsive to changing social needs, and it has shown itself to be adaptable to the stresses and constraints put upon it by a depressed economy and the regulations of governmental agencies. It is tempting to mourn for the vanished years of the 1960's, but I am confident that graduate education will not only survive the strains and threats of the mid-1970's but will emerge both leaner and healthier as a result of them.

President's Report

J. Boyd Page

I consider it a very great privilege to have the opportunity to report on activities of the Council and your central office. It is difficult to keep these annual reports from falling into a set pattern. This year I am going to depart from my usual practice and emphasize some different kinds of activity; I hope this will be of interest and that it will help you arrive at a better picture of what we do. This may involve some risk since many important ongoing activities, such as the Consultation Service or Summer Workshop, will appear to receive little recognition. The members of the Executive Committee, however, have expressed concern that many important activities of the Council may not be visible, particularly to many of you who have come fairly recently into the deanship.

Before attempting to present what of necessity will be only a partial list, let me pause to express my sincere thanks to a hard-working, loyal staff. Most of you know Dr. Ryan, who fulfills many varied and important functions for the Council. These include editorship of our publications, management of the Consultation Service, and, of particular interest just now, handling of the many logistical details required for managing this excellent conference. Backing both of us up very effectively are our efficient secretaries, Mrs. Daniel and Miss Meyer and formerly, Mrs. Corbin, who was with us until her retirement in April.

The Executive Committee is central to all of the activities of the Council. This year's Committee has been particularly effective and hard working under the able leadership of Chairman Shirley Spragg. Our entire year's program does, of course, culminate in the annual meeting. I hope that you will agree that this is an excellent meeting. Our Chairman-Elect, Dean Elberg, has served as Chairman of the Program Committee. Many of you have already commented on the quality and the timeliness of the program he has arranged. The members of the Executive Committee are devoted to the cause of the betterment of graduate education and certainly are deserving of your recognition and appreciation.

You will hear separately reports from several of the committees and task forces. The level of activity has been high and much has been and is being accomplished.

Our membership with the election of Sangamon State University now stands at 342. Our attendance at this meeting probably will exceed 400, which will come close to a record. Many associations have noted decreases in attendance at national meetings. It is extremely gratifying that our member institutions are so widely represented and that our many friends and associates have chosen to be with us.

Now let me bring to your attention, in a partial and unordered list, a few of the activities with which your officers and staff are involved. Hopefully, parts of this report may generate some questions in your minds so that you will bring to our attention ways in which we can be of greater

assistance to you or that you may be of assistance to us in furthering the concerns and activities of the Council.

For at least ten years, the Council has been very actively involved in trying to deal with the Treasury and the Internal Revenue Service to get more equitable treatment under the tax laws for graduate assistants. We have acted with other educational associations. We have consulted attorneys. We have attempted to work through individual Senators. We have asked for and received hearings before top administrative officials. In short, we have done everything we have known how to do; and, seemingly, no action came. Recently, as you know, a ruling was issued. This had been promised and anticipated for several months. It is not exactly what many of us had wished for, but it is vastly better than what we had before. I do not mean in making these comments to imply that the clarification we have obtained has resulted directly from our continuing activities.

One of the first things I was told when I came to Washington was that much could be accomplished if one doesn't worry about who gets the credit. I think this is very literally true. If you try to go down the "audit trail," if you try to trace where an idea came from or at what point appropriate pressure was placed or who finally made the decision, it can't be done. So we and representatives of other educational associations operate in an environment where we plant ideas where we can, we apply pressures when we can at the times when it seems appropriate with whatever pressure seems appropriate, and then, quite frankly, most often we feel that we have been wasting our time. But, somehow and someplace in a very involved and complex process things do get changed. Sometimes the change is in the direction sought. It is almost never completely what one individual or association might promote. Furthermore, even when a bill has been signed into law, change continues through establishment and administration of regulations, through appropriations, deferments, rescissions, and finally even through amendments. It is important to keep these practical considerations in mind since they are also applicable to much of what follows.

You are aware that our office is in the National Center for Higher Education. With most of the other associations having interest in higher education, some of these associations represent large numbers of colleges and universities—others like CGS representing special though important segments of the total higher education community. It is a matter of carefully worked out policy that the presentations that are made to Congressional committees from the higher education community should, for the most part, be presented jointly. This means that activities of individual associations, particularly an association such as ours, receive very little visibility. The decision, however, is a sound one; and there is ample evidence that this adds considerable force to the recommendations made. Coordination is effected through the Secretariat, an informal association of the chief administrative officers of most of the influential higher educational associations in Washington. When presentations are made, they are usually presented with the listed endorsements of those associations having institutionally based memberships. The American Council on

Education is, of course, the parent association. The ACE, as do the other institutionally based member associations, maintains a full-time congressional liaison representative staff. Thus, when you read of a presentation being made in the name of five or six associations, very literally the other associations, including CGS, have already had their input and do in fact endorse these statements. It would be unworkable and counterproductive to list all of the associations who agree or disagree with any particular statement. If there are differences, the differences are resolved before the statement is presented.

Last year the Executive Committee of the Council drafted a position statement relating to Title IX of the Higher Education Amendments. This was presented to the Board of the American Council on Education. It was subsequently accepted with very little change and incorporated into the overall position statement of the American Council on Education. This statement has been re-endorsed and re-emphasized in several subsequent presentations. More recently, in a presentation before Mr. O'Hara's committee on student aid relating to funding provisions of Title IX, a joint statement was presented for the Association of American Universities and the Council of Graduate Schools by President Corson of Cornell. In an earlier hearing before the same committee, your Council made a direct and specific presentation.

We have participated in several drafting sessions with representatives of AAU and personnel from the Office of Education in preparation of modifications on proposed amendments to existing legislation to go into effect when present provisions expire. It is much too early to see what impact these proposals might have, but the recommendations are in, and they will be followed closely.

The Council was recently represented in an invitational conference on the external degree. This conference derived from a study supported by the National Science Foundation at the Center for Research and Development in Higher Education, University of California, Berkeley. Most of the participants in the conference were primarily concerned with undergraduate degrees; but the whole area may be of considerable significance at the graduate level, both from the standpoint of admissions and as a possible new component of formalized graduate education.

Some of you may remember that we recently asked in a simple letter survey how many graduate schools have established external degree programs. We had a 95 percent response rate, for which we thank you. From this we have identified 119 external degree programs now established at member institutions of the Council. Most of these have been established within the last two years. As you might expect, most of these programs are in Education. It is evident that there is much interest and considerable activity in this area and that universities are being responsive to pressures for expansion of graduate opportunities. Clearly, this represents a development which will have far-ranging implications for our total graduate enterprise.

The Council has participated actively in interassociational meetings relating to transfer of credits. New problems are arising with respect to

transfer and standards, particularly as demands increase for greater flexibility in graduate programs. This will continue to be an area of great activity and concern.

You have heard in an earlier session of many of the activities of the Council relating to international affairs, so these will not be enumerated here beyond indicating that the Council is an active participant in the National Liaison Committee on Foreign Student Admissions, of which Chairman Spragg is the present Chairman. The President of the Council is *ex-officio* Chairman of the Advisory Committee on Graduate Studies for the Institute of International Education. Additionally, your representatives have served on the faculties of each of the eight overseas workshops on foreign student admissions and counselling sponsored by the Department of State; the ninth is already scheduled and the representatives appointed.

The Council has, from its establishment, been actively involved in activities of the Graduate Record Examinations Board. As you know, the Board has the responsibility for policy direction for the Graduate Record Examinations, shared responsibility for TOEFEL, and conducts a very active and continuing program of research on matters relating to graduate education. The Board is made up of sixteen members, four designated by CGS, four by AGS, with those eight electing eight others. The President of CGS serves as *ex-officio* member of the Board and of the Executive Committee. You have been informed at this and at previous meetings of some of the activities of the Board and the many ways in which GREB and CGS cooperate. The Annual Enrollment Survey and the Dimensions of Quality project, both of which will be mentioned later, as well as the *Graduate Programs* and *Admissions Manual*, all result from active cooperation and participation by representatives of the Council.

We serve on the Advisory Board to the National Science Foundation for their statistical studies, the Advisory Board to ACE for its Higher Education Panel Surveys, have participated actively in the planning conferences for HEGIS, and serve on the National Advisory Council for the National Center for Higher Education Management Systems. We have been invited to participate in a conference sponsored by the National Research Council relating to coordination of manpower statistics and projections and are in the process of forming a new joint committee with the Council on Postsecondary Accreditation relating to accreditation of graduate study.

The Council has been represented for several years on what was the Commission on Accreditation of Service Experience of the American Council on Education and more recently has been established on the Commission on Educational Credit. I am completing my second term as Chairman of this Commission but will continue to chair a task force which is undertaking a major study on standards for evaluation of non-traditional education and on credentialling of newer components of advanced education.

You will be interested to know that Dean Elberg, your Chairman-Elect, has served this year on the Board of Directors of the American Council on Education as the representative of CGS.

Within the last month, we have participated in the first meeting of the

bi-national German and American Commission on Equivalency of Degrees. We have also made presentations before the Conference of Executive Secretaries of the Fulbright Commissions for Europe. We hold membership in the Advisory Committee to the Office for Higher Education of the Education Commission of the States, and several of your representatives were participants in the panel which dealt with the role of states in graduate education.

Our office serves increasingly as a focal point for inquiries about graduate education and for interpreting graduate education to the public and to our colleagues overseas. This rather sketchy listing has been presented not to demonstrate personal involvement, but hopefully to give some picture of typical activities of your officers and staff.

Three major ongoing projects, the Dimensions of Quality project, GRADCOST, and the expansion of our publications program, will be discussed by others in subsequent reports.

One final and traditional reference—Dr. Altman and his staff have completed phase I of this year's Annual GREB-CGS Survey of Graduate Enrollment. This is the most complete and most current enrollment survey available. I wish to thank Dr. Altman and his staff for their very fine efforts in completing this significant survey every year and thank you, our member institutions, for the magnificent way in which you respond to our requests for current information. As you will see, the response rate, 89 percent, is unusually high; and it is because of this and the care with which you complete the questionnaire that the survey is so complete, so reliable, and so well received. A current report is available for you to pick up at the close of this meeting. The complete report will also be published in the *Proceedings* of this conference.* I will not attempt to summarize the results since these will be available to you for your own study; but it is striking that enrollment has again increased this year 5.5 percent, with the increase for public institutions being 6.1 percent and private institutions 3.5 percent. First-time graduate enrollments increased 3.5 percent overall, with public institutions showing a 4.4 percent increase as opposed to .7 percent for private institutions. The number of applications for graduate study showed a combined increase over last year of 6.4 percent, with 6.2 percent increase for public and 7.1 percent for private institutions. These figures are striking in comparison with the marked differences in first-time enrollments between public and private just mentioned. The number of graduate assistants (service required) on appointment showed a 4 percent increase. The number of fellows, 2.3 percent increase. The number of Master's degrees awarded, 3.1 percent increase, and the number of Ph.D.s awarded, 2.3 percent *decrease*. Past trends in the distribution between full-time and part-time enrollments has continued, with the shift toward part-time increasing another percentage point, now standing at 58 percent.

We solicit your continuing support and participation in the second section of the enrollment survey, which will soon reach your offices. It is

*Editor's Note—The entire survey may be found in the Appendix on page 201.

even more important that these be filled out completely. The results are widely utilized to indicate current trends and developments. Your returns also serve as the base for additional studies, particularly those made by Dr. Khoury for AGS.

In summary, the Council has had a very busy year, I believe a very productive year. The Executive Committee and your officers have been hard working, but the sum-total represents great interest and activity on the part of many member deans. Our committees and task forces have been active, and the response and attendance at this meeting are gratifying indeed.

I do most sincerely appreciate the opportunity to continue to serve the Council. All indications point to a busy and active year ahead. We solicit your continuing cooperation and support. With the Summer Workshop scheduled for Logan, Utah, and the annual meeting for Denver, Colorado, and, under the chairmanship of Dean Elberg with Dean McKee as Program Chairman, our general sessions next year promise to be pleasant as well as productive. We look forward with eager anticipation to the year ahead.

AFGRAD Report

Gustave O. Arlt

I have asked for the privilege of presenting this report of the AFGRAD Committee for two reasons. In the first place, while this committee is *de jure*, the committee of the African-American Institute it is *de facto* a committee of the Council of Graduate Schools. Its members are nominated by the Council of Graduate Schools and are appointed by the President of the African-American Institute. In the second place, I asked for it because this program has now entered its fourteenth year (it was begun in 1962). It has had a tremendous impact in Africa and on the cooperating universities.

The operation of the African Graduate Fellowship Program is a joint venture by three participating members. It includes the governments of twenty-six African countries, AID, and a group of American universities who supply the necessary money for fees and tuition for the students. The African governments provide the round-trip transportation of the students. The AID provides for their subsistence while they are in this country.

In the past fourteen years, the number of students from Africa whom we have brought over and who have gone through either a Master's degree course or a Ph.D. program in this country is just over one thousand. In spite of the figures that were mentioned this morning in the session on foreign students, we have quite the opposite kind of figures to present. Of the thousand odd students who have taken part in the program, 94 percent have satisfactorily completed the degree which they pursued. There are not that many groups of students that have that high a completion rate. In addition, of all the students who came over here, 92 percent have been repatriated. There are 8 percent still remaining in this country who have not yet finished. Occasionally, a student will ask for one reason or another if he can remain in this country or whether he can go to another country. Such cases are handled individually by the Graduate Deans Advisory Committee, by AAI, and by the embassies of the country concerned. Of the individuals returned to their native countries, 288 are now employed in African universities. Some of the universities have a percentage of their faculty who are former AFGRAD students.

I also have a list of the names of 75 former AFGRAD students and the positions they now occupy in their countries outside of universities. For example, the first man on the list is the Commissioner of Works and Housing in the North Central State of Nigeria, the next one is the Manager of the Industrial Vocational Training School in Madasalba, the third is the Commissioner of Trade and Industry in the State of Nigeria, the next is the ambassador from Kenya to the United States.

A few months ago there were some doubts as to the future of this program because AID was at that time revamping its entire operation and planned to change the AFGRAD program in such a manner that it would not have continued as the program that it was, in that it would no longer have been subject to the control of its own graduate schools and the

selection would have been made by the African governments. We very strongly opposed this contention, for we are too well aware that selection by the African governments would have been based on politics. They would have been political appointments rather than appointments made on the basis of ability and the need for filling manpower. Last week AID changed its course entirely and has gone back to supporting the program as it was originally intended to be supported. It has increased not only the budget for AFGRAD, but also the allowance to the individual students. Thus, we can start out the fifteenth year with at least the assurance of continuation for the next three years.

I am constantly being asked by graduate deans how do we get an AFGRAD student into our institution. Any of the universities who wish to participate are welcome to do so and need only to make their wishes known to the African-American Institute in care of the Director of Education, Ronald Springwater, or to me.

I wish to thank all of the universities that have participated for the support that they have given us even through the difficult time when in many states the state legislatures would not permit the waiver of tuition and fees. Many of our institutions have succeeded in gathering the necessary funds to take care of that financial matter. I hope that it will continue, and I hope that more of you will want to participate.

Report of the Publications Committee

Jacob E. Cobb

Mr. Chairman, as President Page told you, the Publications Committee has submitted to the Executive Committee a restatement of the Master's degree standards and a statement of the organization and governance of graduate schools. This was the charge we received at the beginning of the year and it was accomplished. I think credit ought to be given, however, where credit is due. The Publications Committee consisting of Dean Wendell Bragonier, Dean Dexter Whitehead, and myself had, as another of its charges, the selection of a writing committee to draft the Master's statement. The Writing Committee consisted of Dean Dale Comstock, Central Washington University, who served as chairman and Dean Philip Bollier of Tulane University and Dean Hardy Edwards of the University of Georgia. These three individuals are largely responsible for the fact that we are able to provide this statement to the Executive Committee at this meeting.

One additional thing that I feel should be mentioned is the statement relating to graduate work. This statement is in essence the one prepared by former Dean John Major and his committee. It reflects almost entirely their work.

In closing, I would mention one other item. In all fairness to the Publications Committee, I must say we decided to operate democratically. I

want only to illustrate this democracy. All spelling had to be unanimous. Commas, however, were only two to one.

Report of the Committee on Biomedical Sciences

William H. Macmillan

The Biomedical Sciences Committee held its fourth annual meeting yesterday with some very lively discussion. The group realized that there will be many problems to work on for the next several years. The steering committee has drafted a position paper entitled *The Importance of Low-Enrollment Ph.D. Programs in American Higher Education*, which recognizes that the majority of graduate programs in the health sciences are small in terms of graduate degree recipients, particularly at the Ph.D. level. A draft of this position paper was sent to over one hundred health science centers for comment. We have received a response rate of about 35 percent, which we consider to be very good.

At the meeting yesterday morning, the participants moved to endorse the position paper drafted by the steering committee for transmission to the CGS Executive Committee. We hope that the Executive Committee will give very careful consideration to this position paper as an official CGS statement. The paper will be transmitted to the Executive Committee in time for their next meeting.

Report of the Task Force on GRADCOST

David R. Deener

GRADCOST is a familiar word to at least some of you, but it may not be for others. Permit me to capsulate its history. The Council became interested in the costs and benefits of graduate education back in 1968 and embarked on a study co-sponsored by the National Association of College and University Business Officers and funded by NSF. The results of this study were published in the spring of 1972. The study found a divergence of opinion about costs and benefits. We received many cost estimates and found that the estimates varied tremendously, sometimes as much as fifteen to one for the same discipline. Consequently, the Council endorsed a continuation of the study known as GRADCOST II by Dean Joe McCarthy of the University of Washington and myself. This phase applied two different methods of costing Chemistry programs at two universities. I will not identify the universities except to say that one was a large state university on the West coast and the other was a moderate-size private university in the deep South.

By December of 1973 we had progressed to the point where we could make some preliminary suggestions as to what might be done to bring some order into the chaos of costing. The preliminary results of that time led to the submission of a proposal to the National Institutes of Health for a broader study. That proposal was successful and a much larger scale project was started.

Let me give you just a brief report of the findings; the official report will be released to you at a later time. We found that at one university the cost of educating a Ph.D. in Chemistry, if you use the number of Ph.D.'s awarded as a unit, ran over $70,000, while at the other university it was over $40,000. The difference in these figures led us to believe that something was wrong. So we asked what does it cost to provide a year's instruction for a graduate student. By using two different methods, we arrived at the figure of $15,000 at one university and $11,000 at the other university. Then we tried to cope with the problem of applying the same method to both universities. We could not accomplish this because of the techniques involved and lack of equipment. But, by factoring out one great discrepancy in the way that the costs were utilized at one university, the figure then became $10,200 at one university and $10,400 at the other university. So what we are doing in the third phase of this study is expanding the number of programs in the analysis—Biochemistry, Molecular Biology, Mathematics, Psychology, English, and Economics from the Social Sciences in order to get some comparability among the disciplines.

We have at present fifteen cooperating institutions. They range all the way from large state universities to private schools that offer the Master's degree and to some institutions that offer only the Master's degree. Thus far, we have had two sessions with the representatives of the universities concerned. There will be a third session in February, at which time we will hope to begin collecting the information necessary to proceed with the final tabulation of the results.

The preliminary draft of the various ways in which we propose to look at costs will be sent to the institutions in January. We have developed five different ways for looking at costing. You may be interested to know that the method used is very much in terms of the costs you might have.

I do believe that this is the last verbal report we will have to make. If you will wait just two months, the next one will be the precious written report.

Report of the Task Force on the Transfer and Equivalency of Graduate Credit

David S. Sparks

Since it has likely been some time since you last saw a list of the members of the task force let me remind you of their identity. They are: Dean Earle Canfield of Drake University, Dean Mary Ann Carroll of Indiana State University at Terre Haute, Dean Andrew Hein of the University of Minnesota, and Provost Robert Johnson of Florida State University.

In reporting to this body a year ago, I expressed confidence that our task force would have a policy statement on graduate credit ready for submission to the Executive Committee by last October and, if approved by that body, available for distribution at these meetings in Atlanta. I regret that the statement is not yet ready. Indeed, there have been times during the past year when I believed that the issues are so complex and so diverse that a general statement could not be developed.

I now think differently. After a spirited meeting of the task force yesterday morning, I believe that we are well on the way to a statement suitable for submission to the Executive Committee by mid-summer. We now plan one meeting in the late winter to review the statements currently under discussion by state and regional organizations of graduate deans and to combine the elements of our own draft statement.

It is evident to all of us that the rapid development of external degree programs, credit for experiential learning in both traditional and non-traditional settings, and the proposals for new methods for the validation of learning and the storage of that validation in credit banks or similar repositories call for guidance from the Council of Graduate Schools in the United States. We believe that the task force will be helpful in providing that guidance.

Report of the Task Force on Master's Institutions

Dale R. Comstock

Thank you, Dean Spragg. I will make my report very brief. Two tasks for the group that were identified at Phoenix last December are nearing completion. The first involved the brochure on the Master's degree to be reissued by CGS shortly, as President Page and Dean Cobb have indicated. Over the summer, various task force members provided helpful suggestions for its revision. The second involves the development of a final report of a survey of Master's highest institutions that many of you responded to a year ago. Some editorial work on the report is still needed and it will hopefully be transmitted to the Executive Committee in the next few weeks. The task force met last evening for its second annual meeting and identified some topics for further exploration and study, including the evaluation and assessment of non-traditional and external Master's programs, our "concern" for institutions operating graduate programs considerably beyond their regional areas—and perhaps beyond their capabilities (some real "horror" stories could be described here and may rapidly replace the foreign student examples cited this morning), and the possibility of a great portion of the annual meeting being regularly devoted to the concerns of the Master's institutions. If the Executive Committee continues the task force, I am sure that any of the task force members would welcome suggested directions for our activities during the next year.

NEW BUSINESS

S. D. S. Spragg

Our next item is an action item which requires the vote of the membership. On May 1, 1975, a memorandum was sent to the member deans on the proposed constitutional amendment which has to do with criteria of membership in CGS. Our by-laws require that this notification be sent to the membership in writing ninety days prior to the meeting in which the amendment is called to vote. The proposed amendment refers to that section of our constitution regarding membership. It presently reads, "Applicants must have conferred at least thirty degrees of Master of Arts or Master of Science or ten Doctor of Philosophy degrees, or appropriate combination, within the three-year period preceding application." The proposed modification of the constitution was approved by the Executive Committee and sent to you for your study. The revised amendment which is now proposed for your action is as follows: "Applicants must have conferred at least thirty degrees of Master of Arts or Master of Science and/or Professional Master's degrees in at least three professional fields or ten Doctor of Philosophy degrees, or appropriate combination, within the three-year period preceding application." This comes to you as a recommendation of the Executive Committee, but has the force of a second in motion which is before you for your discussion and action. Is there any discussion of this motion? Is there any call for questions?

All in favor of adopting this constitutional amendment please say "Aye." Any opposed? Carried without dissent.

A statement was sent to you on April 15, 1975, with respect to a revision, actually a rewording of the "Resolution Regarding Fellows, Trainees, and Graduate Assistants." It asked institutions to reply as to whether or not they wished to be listed as a signatory of the resolution.

The CGS office has received responses from a great many institutions that have been virtually unanimously in favor. There are still some institutions that have not replied, perhaps for reasons best known for themselves. Obviously, we cannot list the names of such institutions on the statement as signatories without their explicit consent. It is our proposal to send a follow-up notice to those institutions who have not responded asking if they wish to be listed as signatories on the revised resolution.

A. Proctor

Mr. Chairman, the Committee on Resolutions presents the following report and will move adoption of three resolutions:

Resolution 1:

The Council wishes to express its gratification to the Dean Sanford S. Elberg, Chairman-Elect of the Executive Committee, and those who

assisted him for the high quality and comprehensive scope of the program prepared for the Fifteenth Annual Meeting of the Council of Graduate Schools in the United States. The plenary sessions of the meeting and the concurrent workshops with their focus upon the main issues and problems of graduate education reflect the traditional concern of the Council for continuous improvement in this most important level of higher education. Further, the selection of speakers and panelists has appropriately reflected the broad membership of the Council and its close association with others who seek the same goals of quality and service.

Resolution 2:

The Council wishes to express its appreciation to Dr. J. Boyd Page for his leadership and highly effective efforts as President of the Council. Dr. Page's work with the Executive Committee and with the constituent members of the Council, as well as his able direction of the national office in Washington, elicits our continuing appreciation.

Further, we ask that Dean Page convey the appreciation of the Council to his staff for work well done—to Dr. John W. Ryan, Assistant to the President, and to the secretaries, Marguerite Daniel and Judy Meyer.

Resolution 3:

The Council further requests that President Page express our thanks to the management of Stouffer's Atlanta Inn for its hospitality and efficient services which have been provided to the members of the Council and their guests.

Mr. Chairman, I move the adoption of these resolutions.

S. D. S. Spragg

All in favor say "Aye." Contrary. Carried.

I will now call for a report from the Chairman of the Nominations Committee, Dean Wendell Bragonier. Let me remind you that our by-laws require a procedure for the nomination and election of new members of the Executive Committee to fill full terms and expiring terms and also to elect members of the Nominations Committee, which will function several months from now.

W. Bragonier

In response to the letter sent out by President Page requesting nominations, more than fifty such nominations were received. The

Committee consisting of Dr. Benjamin Hudson, Atlanta University, Dean Dale Comstock at Central Washington State, Dean J. Knox Jones, Texas Tech, and myself had a fine group from which to choose. We tried to keep in mind geographical distribution and the variety of fields represented in selecting the slate that I will now present.

Mr. Chairman, nominated for three-year terms on the Executive Committee are: Dean Robert Kruh, Dean of the Graduate School, Kansas State University; Dean Michael Pelczar, Jr., Vice President of Graduate Studies and Research, the University of Maryland; and Dean Daniel Zaffarano, Vice President for Research and Dean of the Graduate School, Iowa State University.

S. D. S. Spragg

Our bylaws require that there be an opportunity for nominations from the floor in addition to the slate proposed by the Nominations Committee. Is there a nomination from the floor? If not, I will ask that you indicate your approval of the slate of nominees for three-year terms on the Executive Committee. All in favor, please say "Aye." Any opposed? Carried.

W. Bragonier

Nominated to fill one-year terms, which are really a part of unexpired full terms are: Dean Robert M. Johnson, Provost of Graduate Studies and Research, Florida State University, and Dean Carl J. Nyman, Dean of the Graduate School, Washington State University.

S. D. S. Spragg

Are there nominations from the floor to add to this slate? If not, all in favor of this slate of nominees to fill unexpired terms please say "Aye." Any opposed? Carried. Finally, the nominees for the new Nominations Committee.

W. Bragonier

Our bylaws provide for certain carry-over members of the Nominations Committee from the Executive Committee each year; but, in addition, members are elected by you. We nominate for the 1975 Nominations Committee: Dean Ronald Schultz, Dean of the Graduate School, Cleveland State University; Dean Annie W. Neal, Assistant Dean of the Graduate School, Federal City College in Washington, D.C.; and Dean Carolyn L. Ellner, Associate Dean of Claremont Graduate School, Claremont, California.

S. D. S. Spragg

Are there additional nominations from the floor for the Nominations Committee? If not, all in favor of the slate presented please say "Aye." Any opposed? Carried.

Our bylaws require that if a person has filled a full three-year term on the Executive Committee, he or she may not be immediately renominated and elected for the succeeding term. The bylaws have been ambiguous about the status of a person who has been elected to fill a one-year term or a two-year term. In some cases, we have renominated and re-elected such a person. The Executive Committee examined this problem recently and came to the agreement that it would probably be well to treat those persons ending short terms the same as those who have completed three-year terms. Thus, none of those persons who just fulfilled a brief term has been nominated for election to the Executive Committee.

May I congratulate the people who have been nominated and elected. I am grateful for their willingness to serve CGS in this way; and they, I think, should be appreciative of the confidence that their colleagues have placed in them.

I should like to acknowledge my appreciation and the appreciation of the Executive Committee for the services of the outgoing members of the Executive Committee: Dean Charles Lester, Dean Earle Canfield, Dean Benjamin Hudson, Dean Lyle Jones, and Dean Wendell Bragonier.

It is my pleasure now to announce that in accordance with procedures set forth by our bylaws the election by the Executive Committee of your new Chairman-Elect is Dean J. Chester McKee of Mississippi State University. Chester McKee is Vice-President of Research and Dean of the Graduate School at Mississippi State University, a man of many and varied talents. In 1969, he directed the Governor's Emergency Council on the recovery from hurricane Camille. I feel very confident in having him as the Chairman-Elect.

Now it is my very great pleasure to tell that your new Chairman will be Dean Sanford Samuel Elberg, Dean of the Graduate Division at the University of California at Berkeley. He has been Dean of the Graduate Division since 1961, having found time somewhere along the way to serve as a Major in the Army of the United States, to be a Gugenheim Fellow, to serve as President of the Western Association of Graduate Schools, and to be President of the Association of Graduate Schools.

Congratulations, and I hand you the symbol of your authority.

S. Elberg

Thank you, Dean Spragg. This is a great privilege and I am deeply honored. In accordance with the usual procedures of the new Chairman, I will announce certain tasks. We will have the summer session for new deans at Utah State University in July under the general direction of Dean

Eastman Hatch and a committee consisting of Dean Eric Rude of the University of Wisconsin and Dean Richard Kendall of the University of Utah. There will be others as soon as I can get in touch with them.

With that, I declare the meeting closed.

Concurrent Workshops

Wednesday, December 3, 1975, 9:00 a.m.-10:30 a.m.

CONCERNS FOR MASTER'S PROGRAMS (1976-1980)

Moderator: Dale R. Comstock, *Central Washington State College*
William Chance, *Washington State Council on Postsecondary Education*
James Ballowe, *Bradley University*
David G. Barry, *University of Toledo*

Dale R. Comstock

Good morning, ladies and gentlemen. Welcome to the concurrent workshop entitled Concerns for Master's Programs (1976-1980). I'm Dale Comstock, Dean of the Graduate School and Research at Central Washington State College and I will be the moderator for today's session.

When Dean Elberg called me to request that I organize this session on the topic of your program, he indicated that I was free to arrange panelists as I wished, but asked that I try to locate a little "leavener" in the mix for us. I hope that I have done so and that we can have a lively and provocative session this morning.

All too often our efforts display an obsessive preoccupation with whatever is currently fashionable. Planning and budgeting, the systems approach, and counting everything that can be counted. The portion of higher education budgets spent on counting may be in absurd proportion to its usefulness and may be drastically limiting our exploration of new programs and new approaches, and our capacity to bring about needed change in the years ahead. Too much of our work as graduate deans and other academic administrators suffers from the so-called "beagle fallacy" noted by Harold Enarson recently. If you have ever walked through the woods with a beagle, you know the delightful experience I relate. The beagle has a superb nose and follows the scent of the trail with total absorption. But the beagle has poor eyesight and seldom looks up to see the rabbit staring at him in amusement.

Our plan of action today is to have our three panelists first present their prepared papers and then have a period of dialogue and discussion with you in the remaining time alloted to us.

Our panelists will speak in the order of your program. I would like to introduce you to each of them at the beginning.

First, Dr. William Chance is Deputy Coordinator for Planning of Washington's Council on Postsecondary Education. He took his Ph.D. in political science at Ohio State and is well known out our way as the principal author of the infamous yellow book on a plan for higher education in Washington through 1982. The title of his paper is "A View of Master's Programs in Institutions Without the Doctorate" or "And What Would You Like to See on Television, Mr. Public?"

Our second panelist is Dr. James Ballowe, Dean of the Graduate School at Bradley University. He received his Ph.D. at Illinois in English, and his interest is in American cultural criticism. He is also a poet. The title of his paper is "Toward a Distinctive Master's Education."

Our last panelist is Dr. David Barry, Dean of the Graduate School at the University of Toledo. He took his doctorate in zoology at Iowa. In spite of this, he is a humanist having held the rank of professor of humanities and was formerly chairman of a state commission on the humanities. The title of his talk will be "The Master's Degree 1975: New Problems and New Needs."

A View of Master's Programs in Institutions Without the Doctorate

William Chance

I will try to make the most of this opportunity to discuss some of my views of graduate education, especially the master's degree, and even more especially, the master's degree in institutions without the doctorate.

My purpose here this morning is to provide a non-academic's opinion, an opinion as one who is not a graduate dean—one who is, in fact, a 'non-graduate dean.' My views on the subject of master's degrees were formed mainly during the course of my tenure with a state coordinating board, and particularly during the review of substantial numbers of graduate programs, both new and existing. Prior to this position, my major concerns with the master's degree centered on whether one spelled the word with or without an apostrophe . . . I'm still not sure, but my thoughts have since transcended this initial stumbling block.

The comments I wish to make involve:

a. The importance of current efforts to stem the proliferation of doctoral-granting institutions;

b. The effects of these efforts on master's-granting institutions, many of which are in a transitory stage in their evolution to doctoral-granting status;

c. An important role these institutions can assume in this context;

d. Some things that statewide agencies can do to assist.

First, though, I want to talk a little about the master's degree generally.

Criticisms of the master's degree abound. My favorite quotation is that of Gustave Arlt writing in 1970 as president of the CGS. Dr. Arlt observed that master's degrees were uncertain in their guarantees, ambiguous in their aims, and uneven in their rigor, in the following terms:

> In brutal fact, the master's degree means so many different things in so many universities and colleges and even in so many departments within the same university that no one can possibly know the meaning and value of a particular degree. In some institutions it really represents a self-contained substantial course of study with a clear and stated objective. In some it is regarded as the necessary prerequisite to advancement to candidacy for the doctorate. In others it means exactly the opposite; namely, that the student has failed the qualifying examinations for the doctorate and is gently eased out with the master's degree in hand . . . in failure. . . . In too many others it is nothing more than an award for patience and persistence in sitting out thirty-six hours of additional undergraduate courses.

Dr. Arit's assessment remains pertinent today. Some circumstances which may apply anywhere include:

First, master's degrees in both the regional and comprehensive universities continue to rely upon, or at least include, a high proportion of undergraduate course work.

(In the interest of brevity let me define the term "regional university" to apply to any institution offering graduate programs through the master's, but not offering the doctorate and the term "comprehensive university" to apply to any institution offering the doctorate.)

In my state (Washington) the master's programs in the public regional universities generate, on average, 58 percent graduate-level credit hours, and 42 percent undergraduate-level credit hours. The range is from a low of 43 percent graduate-level work in one institution, to a high of 71 percent in another. By comparison, the comprehensive universities' average is 73 percent graduate-level credit hours in master's programs (a low of 67 percent; a high of 74 percent).

Although course-numbering is somewhat arbitrary, it seems incontrovertible that in both segments master's programs involve an appreciable proportion of undergraduate course work.

Second, also in my State, and I suspect in others, on a unit-cost basis, graduate education is slightly more expensive in the regional universities than in the comprehensive institutions. This is in some measure a function of scale, and it stems from the comparatively low enrollments in some of the master's programs of the regional institutions. The average regional unviersity master's program entails an FTE cost of $3,033; master's programs in the comprehensive universities reflect an average cost of $2,977 per FTE.

Comparative figures between segments are not entirely reliable because of the differing requirements of master's programs offered between and among them. Some master's programs in the comprehensive universities require at least three years to completion. A master's program in a regional university may require one year to complete; a professional master's program in the same institution may require two years to completion. Such

differences must be taken into consideration when determining the costs of master's programs.

Third, comprehensive universities in my state continue to develop plans calling for each department engaged in graduate education to acquire the resources to support the offering of a doctoral program to justify its continued involvement in graduate work.

This goal operates regardless of whether the doctoral degree is a pertinent credential for practitioners. In many fields, we know, the master's degree is considered the appropriate highest professional degree. Master's programs in public administration, social work, nursing, and architecture, are examples of this. The advent of Ph.D. programs in such professional fields can create ambiguity with regard to master's degrees previously accepted as the professional credential. Moreover, as the pool of doctoral-holders in these fields increases, and Ph.D.'s begin moving into position as practitioners, as opposed to teaching and institutional research, the effect can be to inflate the required qualifications for these professional positions, stimulating a false demand for more doctorates, and, by extension, more doctoral programs, and by further extension, more doctoral-granting institutions.

Fourth, in spite of firm proscriptions against the multiplication of doctoral-granting institutions, faculty in many regional universities continue to aspire to the offering of the doctorate. This desire may be overt or covert, but it is persistent; moreover, it is an issue both complicated by and complicating of the issue of an appropriate research role for these institutions.

Fifth, we are almost learning to live with the chronic problem of degree title proliferation. The CGS guidelines recognize two basic types of master's degrees: the Master of Arts/Science (the "academic" master's degrees) and the Master of (professional field), or the "professional" master's degrees. The former type, which has the objective of preparation for scholarly activities and research (and which traditionally fed into the doctorate) comprises about 56 percent of the master's degrees awarded nationally. The latter type, the professional degree, is usually aimed at preparation for a career in professional practice and is applied in nature. This latter type comprises the bulk of the degree titles in the country. Estimates of the number of distinct titles range from about 150, upward to about 800.

Whatever other point I may make at this meeting, I feel it important that this number be controlled. There is a seductive but insidious attraction to tailor-made titles which, if pressed to its illogical limit, would spawn a distinct degree title for each degree recipient. If the purpose of titles is to communicate something of a person's qualifications, the end effect of title proliferation is the same as title elimination. Degree titles must be rendered effective by controlling their numbers.

Whether the recommendations of the Carnegie Commission (reducing the number to about seventeen) or some other scheme is applied, this should be done. In my state the coordinating board has called for a review of the question by the graduate deans, acting as a body, with the goal of a parsimonious nomenclature. The success of such state-level efforts will be enhanced if they have the support of CGS.

All of these circumstances, and others not mentioned, have implications for graduate programs in regional universities. But there is one matter in particular that most directly contributed to current anxieties in their master's programs—this is the generally-accepted need for limitations on the development of additional doctoral-granting (comprehensive university) institutions.

In 1970 Lyman Glenny stated that 50 institutions in the country produce 90 percent of all the doctorates, and the remaining 10 percent are produced by an additional 190 institutions. On this basis one might conclude that all 190 of the other universities should close out their programs, thus saving a great deal of money and simultaneously reducing doctorate production by 10 percent.

Glenny also observed that programs which have not met optimum enrollments before 1974 or 1975 will probably be unable to reach desirable levels thereafter and should be considered for elimination.

Lew Mayhew noted that as a general principle it can be argued that only about 100 institutions in the country have the traditions and attributes for major efforts in graduate education. For the rest of the 2,800 institutions in the country, graduate education should be approved rarely and only after full examination of their ability to maintain appropriate programs.

Mayhew was speaking of *graduate education* generally: The effect is multiplied if we limit the issue to doctoral-level programs. Glenny's statement of priorities is also significant. He argued that it is necessary to reduce the number of public institutions which offer the doctorate to one or two per state.

In my opinion there is no longer room to question the need to control the development of additional doctoral-granting institutions. If anything, the arguments for restricting doctoral sprawl have grown even more compelling in recent years. And we should emphasize that this is not a short-range condition! But beyond that, *the problem is the lack of concomitant statements on the effects of such controls on institutions whose role in graduate education will be thus limited to the offering of the master's; institutions whose traditional aspirations will be checked.* There has been little discussion of distinct graduate role for the regional university, and this brings me to the nucleus of this report.

To understand the problem, it is important to examine briefly the evolutionary paths that the public regional universities have followed. Their developmental progress, from normal school, to teacher's college, to state college, to their present status as multi-purpose regional institution has been oriented to their ultimate ascension to the status of comprehensive doctoral-granting university. (I recognize that this genealogy is not directly applicable to regional universities in the private sector, although for many, their initial incursions into graduate education were in teacher training, and I suspect that many which moved on to more comprehensive programs aspired to the doctorate, scuttling these aspirations only when the costs of such programs proved intolerable.) In any case, the vestiges of this evolution are reflected in my State, even today, by the fact that the public regional universities' graduate programs (using the CGS distinctions) are

about 86 percent academic, and 14 percent professional (applied). The pattern in the private institutions is notably different; there the distribution is 44 percent academic and 56 percent professional.

I suggest that by dint of circumstance, and by this I mean a more direct, and therefore compelling, imperative to monitor costs and adjust programs to the market, the private colleges and universities adopted changes in direction earlier than their public counterparts, many of which have yet to do this. I believe this difference is significant.

From the perspective of enrollments, although the master's programs in the public institutions are heavily oriented to the academic, degree conferrals (a function of enrollments) are only 26 percent in the academic programs, 74 percent in the professional. A similar pattern applies in the private institutions, although in these schools, of course, the distribution of program types is more nearly congruent with the degree conferral distribution. In this sector, where the program types are 44 percent academic and 56 percent professional, the degree-conferral distribution is 86 percent professional and 14 percent academic.

Prior to the limitations on the expansion of doctoral-granting institutions it may have made more sense to emphasize *academic* master's degree programs than it does at the present. In the public regional universities such programs would form the base for the doctoral programs that would signify the debut of these institutions as comprehensive universities. With the curtailment of this evolutionary process, a continuation of such an emphasis is, I believe, no longer justified.

In my state last year, master's degree conferrals totaled 3,616, or 11 percent of all the degrees, of all levels, awarded. This number is up, as it has been during each of the recent years.

State-supported institutions have continually accounted for the bulk of the master's degree conferrals, but this proportion is declining, as private colleges and universities expand their activities at the graduate level. In 1971-72, public institutions accounted for 81 percent of the master's bestowed; by 1974-75, this figure had dropped to 74 percent.

Perhaps most striking, the comprehensive universities have traditionally accounted for the bulk of master's degree conferrals, currently 57 per ent, as well as, of course, the preponderance of those awarded in the public sector. The regional universities, private and public, account for about 43 percent of the conferrals, and the public regional universities, in my state, for about 17 percent of the total.

These patterns support two observations. First, the master's degree is a credential in demand and there is little evidence that interest in it is waning. Second, *most of the master's degrees that are conferred are awarded by institutions whose highest degree is the doctorate.* This second point has continuing significance for regional universities whose graduate programs by nature are oriented to direct competition with those of the doctoral-granting institutions.

At this point I need to state that I am supportive of a graduate educational role for the regional universities. But I believe that some important new perspectives are necessary if an effective graduate educa-

tional role, especially for the *public* regional universities, is to be continued. I feel that a basic change is going to have to occur in the way that the master's degree is viewed.

Until recent years the degree was considered as a necessary step to the achievement of the doctorate. I believe this should change. I believe the regional university should view the master's degree instead as a logical extension of undergraduate education, that it should put more emphasis on applied master's programs preparing persons for professional career entry and practice, and less emphasis on the traditional research-oriented academic master's program.

The implications include greater acceptance of the presence of undergraduate-level student credit hours in degree programs, and supplementary courses aimed, often, at the part-time employed student taking instruction in the evenings, in off-campus locations (and here we are going to have to reconsider accreditation requirements for some programs). Greater use of practice and the utilization of practicing professionals in the instruction process are also likely changes. Academic advising may assume a different form, with less emphasis on preparation for entrance to a prestigious graduate school's doctoral program and more emphasis on cooperative education, internship arrangements, and career counseling. Such a redirection at the graduate level will have a clear effect on undergraduate programs, with larger numbers of students entering those particular programs preliminary to the professional master's programs offered.

What I am suggesting is that the regional universities break the shaky nexus they have with the comprehensive universities. Presently, they see their students transferring into doctoral programs upon completion of the masters. The data, however, do not substantiate this view. Students transferring from regional to comprehensive universities tend to do so upon completion of the baccalaureate. This is the point, at the baccalaureate, the universities prefer to take them, and this is the point at which they do. A regional university graduate program that focuses upon the function of preparing students for subsequent doctoral work is probably out of sync.

Observations such as these force a re-examination of the regional university graduate role. One I believe is appropriate is one in which the emphasis is shifted back from a doctoral-level, research-directed role to a master's-level teaching-institution orientation.

Several years ago the Carnegie Commission, concerned with the overall problem of increase in numbers at doctoral institutions, and the shift in the state colleges (or public regional universities) from teaching-oriented to research-centered comprehensive institutions, recommended the development of the DA degree as a doctoral program to prepare people for careers in these institutions. The logic of the Carnegie Commission's recommendation followed from a premise that the cause of the evolutionary path the regional institutions were pursuing was a function of the education of their faculty, who had been trained in research-oriented Ph.D. programs, in research-oriented universities. The Commission reasoned that a teaching-oriented doctorate for persons in state (and community) colleges would

restore these institutions to their original and desirable teaching-centered role.

One can argue with the logic of the Commission. I don't believe, for example, that the best place to offer a teaching-oriented degree is in a research-oriented university (which must be the case if we are to control the proliferation of doctoral programs), and I do not think the DA holder has much chance in competition with Ph.D.'s for limited teaching positions in regional universities, or with the MA/MS for teaching positions in community colleges (particularly in view of the community college disdain for doctorates and salary structures which allow a college to start a master's degree holder at a lower salary level than a person with a doctorate).

Instead of following the arduous and uncertain paths typified by the DA degree, I believe the more direct route to the simultaneous resolution of both problems lies in a clear designation of a role for the master's degree granting institutions as regionally-oriented teaching institutions. Their graduate programs should focus upon professional degrees in applied fields, suited as much as possible to the professional requirements of the areas the institutions most directly serve.

In offering these programs, the regional universities should see them for what they are—extensions of undergraduate education, with the purpose of preparing people for direct entry into practicing professional areas. The programs are not normally, and would not be considered interim degrees or steps to the doctorate.

Requirements for demonstration of research capabilities, and the acquisition of research tools (e.g., foreign languages) should be re-examined for their fit with the careers to which the program is pertinent. They should not exist for the purpose of creating an illusion of rigor in a program, and they should not be there because they may be required by a subsequent doctoral-level experience.

I believe such a conception of a graduate role makes sense. But I also recognize that its success is dependent upon other factors, and this is where the state coordinating board must function to preserve this role for the regional university.

As the most important step, and independent of the question of a role for regional universities, the coordinating board has a responsibility to control the proliferation of doctoral-granting institutions. It also has a responsibility to arduously review existing doctoral programs, both those of a similar nature offered in more than one institution in the state, and those offered singly, by one institution, in search of possible areas for interstate doctoral program coordination and cooperation.

In my state we have discussed at some length the concept of a core curriculum. Essentially, this is the basic core of programs a college must offer if it is to be considered a college. This core can be identified, and the concept is valid at the undergraduate level. I do not believe it has validity at the graduate level. Yet, the public regional universities devote a considerable amount of effort to the establishment and maintenance of such an academic "core" at the graduate level.

This leads to particularly high unit costs in academic programs. For

example, while the average graduate cost per annual FTE in the public regional institutions is $3,033, this average is inflated by the existence of certain programs. A home economics master's program in one college has a unit cost of $4,238/year. A fine arts program has a unit cost of $4,926. A foreign languages master's program involves a unit cost of $7,913. A mathematics program requires $6,921 a year for each student. The physical sciences master's programs in all of these instituions tend to run high, ranging from $4,055 to $5,838.

These program unit costs can be compared with those in other areas: business and management—$1,464; communications—$204 (that's not a typo!); education (average—$1,378; the health professionals (average)—$927; psychology (average)—$1,937; lastly, public affairs—$1,611. It is clear that such costs are lower.

It is also clear that what is happening is that the high enrollments are in the applied programs and the low in the academic programs. One might also surmise that the higher-cost instructors are in the academic programs, and these factors account for the disparate unit costs in the two areas.

The coordinating council has a particular responsibility to examine programs carefully and determine whether or not there is a regional or a statewide need for them. I suspect that a careful analysis will reveal a high regional student need for applied programs, and a high institutional, or faculty, need for the academic programs. But in any case, programs which cannot demonstrate a relationship to a regional need should either be consolidated in one regional university and directed to a statewide clientele, or they should be discounted.

I also believe the coordinating councils have a responsibility to work closely with the regional universities in the identification of area needs for new professional programs and in supporting the development and offering of such programs when the needs are determined. Perhaps more important, the coordinating councils have a responsibility to monitor and control the development of doctoral programs that would preempt the master's degree offered in various applied fields.

Doctoral programs in such fields as public administration, nursing, social work, business and management, etc., have to be carefully examined and rigorously justified. While there should be some such programs available in the country, I presume, for the preparation of new faculty to support research in these fields, (although someone should define for me the scope of basic research in a nursing doctoral program) I do not believe that they are necessary in every, or even more than a few states. Perhaps in this area there is a need for interstate cooperation so that the expansion of such programs can be monitored. The danger I am particularly concerned with is that of undermining the applied master's programs which seem so vital to a future graduate role for the regional universities through escalation in the accepted level of practicing degree.

Finally, there is the question of conjoint doctorates: If one speaks of controlling increases in doctoral-granting universities, a logcial next question concerns one's views of the conjoint doctorate. Mine are these: *I know of no conjoint doctorate program that was not imposed on the*

predominant participant in the relationship by an outside authority. If there is not such outside pressure, I suspect that the regional university seeking such an arrangement with a comprehensive university is wasting its time. Beyond this, at the present time I see no clear need for a conjoint doctorate of virtually any type in my state. Should such a need develop, however, I believe it is likely to occur in these fields I have been describing, professional fields. But in any case, I do not currently feel that conjoint doctorates in academic areas make much sense and, again, at the present I do not see a compelling need for any.

In bringing all of this to a conclusion, let me state again that I am fully supportive of a graduate education role for regional universities. I believe the most currently effective graduate role for these institutions, however, is in the applied master's areas. I believe the days of the evolving comprehensive universities are over for some time to come. The current capacities at the doctoral program level appear sufficient to the needs of the nation for the foreseeable future. In view of this, I believe a continuation of past attitudes on the concept of the comprehensive university as the pinnacle of institutional development is folly; it can only lead to frustration, on the one hand, and wasted resources on the other. Our concerns now must be directed to the master's degree in this truncated situation.

Toward A Distinctive Master's Education

James Ballowe

Surveying the concerns for master's level private education from now into 1980 might seem like looking with Nathaniel Hawthorne along Main Street in Salem, Massachusetts, in the mid-nineteenth century: "lounging wearisomely through the whole extent of the peninsula, with Gallows Hill and New Guinea at one end, and a view of the almshouse at the other. . . ."[1] Yet, apart from the obvious financial concern that private universities have, the master's-level education that they offer has long suffered from a lack of external and internal definition that fosters abuse and misuse. From without, the *comprehensive* universities (using William Chance's nomenclature for the institutions which have given birth to all deans of graduate schools)[2] have tended to identify the master's degree as a rather barren plateau, populated by those who have had a failure of nerve or intellect. Obviously this mythology no longer satisfies any but those in Ph.D. granting institutions (prestige or recently developed) who reserve the master's degree as a certificate of consolation. We create our myths to justify our aims.

On the other hand, life-experience education has now reached the ranks of baccalaureate students whose degrees but not undergraduate credentials "qualify" them, they believe, for something better than non-credit or

undergraduate courses. Consequently, the continuing education strategists have found admissions standards, course prerequisites, and costs of traditional master's degrees to be impediments to their logistical efforts to bring post-baccalaureate bodies to their far-flung classrooms, no matter what their preparation or what the standards of the course. Recognizing the recalcitrance of some academic deans to cooperate unreservedly in this enterprise, the continuing education fraternity has now developed something called Continuing Education Units—CEU's—for which they are seeking and have in some places gained accreditation which is accepted by the public and by employers as equal to graduate or undergraduate credit.

At the *regional* institution (again I accept Chance's terminology for the master's degree granting institution), which offers degrees for 30 to 60 semester hours beyond the bachelor's and which is usually located within an urban area (as is Bradley University) or a geographical region (like the state schools in Illinois: Western, Eastern, Southern-at-Edwardsville), the master's degree has been created to meet a demand within the community it serves. For instance, the fact that Bradley has the only accredited multi-discipline graduate school in a relatively sophisticated commercial, medical, industrial, and agricultural center of 300,000 population in Illinois, virtually mandates it to provide advanced professional education for managers, teachers, engineers, and other constituencies which have entered the working community with an undergraduate education. I say this with full knowledge that our four neighboring public institutions which are within 40 to 90 miles distance are developing delivery systems of graduate credit courses into the Peoria area for less tuition costs. But the mandate that we have as a resident graduate institution remains: we must offer a distinctive quality graduate program that will justify our costs, in short a program that will serve those who can distinguish between more credit and quality content. Our graduate programs since their inception in 1947 have always accommodated four types of students: 1) the person who simply desires credit for formal learning beyond the bachelor's level or within his level of competency; 2) the employed practitioner for whom scholarly activity means personal and professional enhancement; 3) the recent graduate whose career requires certification with a master's degree (as in speech and hearing sciences and school psychology); 4) the student who seeks eventual admission to doctoral study. Such diversity could conceivably find the medical practitioner who is seriously interested in fiction, the Ph.D. aspirant, and the secondary school teacher participating in the same seminar devoted to the history of the English novel. I suspect that a growing interest among an increased population of urban baccalaureate students in challenging programs and courses which provide a long-term coherent plan of study is one factor that prompted the Office of Education to project that there would be 328,900 master's degree applicants by 1980-81 as compared with the 251,400 in 1972-73, this in the face of dire predictions about manpower needs.

Indeed, it is manpower needs which create the most compelling pressures at regional institutions these days and tend to further confuse those who seek to define what they are or should be doing. While we

academics might prefer to agree with Ortega y Gasset who wrote in the *Mission of the University* (1944) that "In the thick of life's urgencies and its passions, the university must assert itself as a major 'spiritual power', higher than the press, standing for serenity in the midst of frenzy, for seriousness and the grasp of intellect in the face of frivolity and unashamed stupidity," we would be taking an ostrich-like attitude to ignore the real needs of our constituencies. Most of us in graduate education tend, I think, to agree with the Association of Graduate Schools' forthcoming report, "The Research Doctorate in the United States," which says that "The informed free choice of individual students, rather than a national plan based on manpower forecasts, should be the primary determinant of graduate enrollments."[4] But the information given, we must understand, is controlled by many interests, perhaps the least dynamic of which seek a graduate education that is creative, demanding, coherent, or comprehensive. Manpower needs must indeed be taken into consideration as we plan for the future. But universities should participate in deciding what can best suit those needs as well as in helping to determine what those needs are. If, as Bruce Hannay, the Vice President of Bell Laboratories say, those trained in the arts and humanities are not particularly desirable for middle management positions in industry any more, so be it.[5] But what he and we must do is to ask how then are we to produce the interdisciplinary generalist in research or in management if the traditional catalytic is no longer accepted? I suspect that there is a central place for the humanities in graduate education but one which heretofore has not been asserted—and *that* place is as the harbinger of the imaginative and creative energies that must be available to those who have increasingly to engage in collaborative applied and theoretical research and to those who must relate that research to the community at large.

A major threat to developing distinctive master's level programs is essentially the academy's own schizophrenic response to the needs of the community. We have but to look at recent confusion within undergraduate and Ph.D. programs to see the danger of jerk-of-the-kneepan responses to "life's urgencies." I think that a symptom of our growing neuroticism at regional universities is the individual courses submitted for approval within already coherent programs which are responding to outside forces. Let me provide a typical example. The Board of Education of the State of Illinois has decreed that by 1976-77 all elementary schools in the State will offer education in the metric system. Our local school district, like most, allows salary increments to employees who complete graduate-level courses. Thus, our College of Education has recently approached the Executive Committee of the Graduate Faculty—which has the power to approve or deny courses—to establish a course at the 600 (graduate only) level in "Metrics for Elementary Teachers" to give to presently employed teachers for three semester hours of credit. Those who argue for the course admit that the potential student pool should be exhausted within two or three years. They also admit that metrics is already being taught to degree-seeking students within a three-hour course which has an undergraduate prerequisite and which includes the methodology of teaching mathematics at the elementary

level. And they say that their degree students should take this latter course rather than the metrics course for which there is no undergraduate mathematics prerequisite. But they bring it to the graduate committee because they contend that if Bradley doesn't offer it at the 600 level, then one or another of the State schools will and Bradley will lose all those teachers in the system who are looking to their resident university for enlightment. The sad fact is that their argument about a State school providing the course at the desired level is probably correct. But at some point we who determine the quality of graduate education at both private and public institutions have to make a hard decision about just what we will let go on at the graduate level, and we must inform prospective students of our intentions and why we set standards. What will happen with the metrics course at Bradley is that it might be passed, but with rather stringent stipulations: that it be offered at the graduate-undergraduate level (500); that demanding credit hours of methodology be built into the introduction to metrics; that the course not be allowed to count toward degree requirements; and that a continuing review of the need for the course be undertaken at its inception. In this compromise we will be tracking very close to the continuing education syndrome, a syndrome we cannot ignore, but which we are obligated not to contract willy-nilly. (Incidentally, we have some precedent for creating graduate-level, non-degree courses for professional constituencies, such as CPA review courses and economics for secondary teachers, taught by the College of Business.)

If the pressures on the College of Education at Bradley have had some negative effects on its nervous system, that College has also responded rationally (where others have not) to help develop one of the most distinctive master's level programs on our campus. In the early '70's when the University of Illinois Medical School moved into temporary quarters at Bradley University (which they still occupy), a group of doctors from a large hospital in the city looked to Bradley for a master's degree program for interns, medical students, residents, and health professionals involved in family practice. What they wanted was a set of courses which could help these professionals to understand their patients better. Not finding an immediate response from within the administration, three of the doctors began designing their own plan of study within the department of secondary education, principally focused upon learning to regard the patient and the patient's family as students. They eventually took master's degrees in secondary education. Last year with the help of these physicians the Graduate School and the College of Education formulated a 30-hour interdisciplinary program which now involves the learning resources of the entire university. (I should explain that the Graduate School at Bradley specifies but 18 hours within the major for the masters and will allow 12 to 18 hours of related other disciplinary courses approved by the department. Some non-professional master's programs have taken full advantage of this latitude.) Cognition and learning theory are still the basis of what we now call *Education for Medical Personnel*, an option within the secondary education degree. But courses available to the prospective students range from engineering and speech and hearing sciences to philosophy.

A course in medical ethics is being offered next semester by the chairman of the philosophy department, a man who specializes in business ethics and who has been tooling up for some time to confront the problems of medical ethics. He just happens to have had a long-standing experience with medical personnel. Here's how he confronts the issue of applying philosophy to the medical profession, which he knows to be protective of its own ethical principles: he writes in his syllabus that the course "will not subject health care professionals faced with practical daily decisions and tyrannized by excessive demands upon their time to a litany of glittering generalities. Nor should it be viewed as a graduate level philosophy course for professional philosophers. It is intended to be a graduate level encounter between health care professional *specialists* and a philosopher, as a professional *generalist*, needing one another, involved in a mutual effort at establishing which questions are the basic ones, becoming acquainted with the strengths and weaknesses of the possible responses to those questions, and sensitizing themselves to the human dimensions involved."[6] There is nothing obsequious about this statement. What graduate-level course which contributes to a coherent curriculum could ask for more? And this is the point: coherency within a curriculum, not the need for an odd course here or there, should be the principle upon which distinctive master's degrees are developed.

Without doubt a commentator like John D. Millet is right when he says that "The growing concern with the obligation of higher education to prepare students for employment may alter the objectives of graduate education rather than reduce the need for graduate education. . . . Planning for graduate education at institutions and in state governments will become more realistic, more varied in purpose, and more innovative than in the past." And, as he goes on to say, "The need for public understanding and higher education justification of graduate education remains."[7] Whether we respond to that need from within the context of conscientious and coherent planning or whether we allow others to do it all for us with hoopla and catch-all expertise may well be the final test of whether or not graduate education will continue to be important to this country or not. I am still idealistic enough to believe that the university has within itself the resources to meet the relatively sophisticated continuing learning needs of the professional baccalaureates of this country, that we can do it by resisting isolationist and piecemeal educational policies and by asserting ourselves as communities of scholars and teachers who simply extend the intellectual activities that are concomitants of an already educated community. We remain the nucleus of that "village" Thoreau believed should be a university. Master's level education at both private and public institutions has outlived the limbo between the B.A. and Ph.D. It was created to develop that person who through a well-planned course of study might gain a mastery of a chosen subject matter. What has happened is that the subject matter is now multifarious and interlacing, but still congruous. It is evolutionary. Ideas are, in essence, charged with change. It is up to us as administrators to ensure that our programs provide students with the theoretical ability and concern for meeting that change intelligently and creatively after they have received the master's degree.

And that, finally, brings me to a degree of disagreement with William Chance's comment that "the only currently viable graduate role for regional institutions is in the applied—terminal master's areas." I suspect that not even the engineering departments on my campus would agree with that statement, largely because of the restrictive assumptions about knowledge it contains. We have learned a lot from the relevancy people and the applied education specialists. We are not adverse to short courses, to innovation, to modular learning, to preparing baccalaureate students with prerequisites for entering a program for which they have had insufficient undergraduate preparation. We are willing to bring engineers into master's programs in business, and vice versa. We convert clinical psychology programs into school psychology programs when we discover we can teach school psychology better and place our students more effectively. We modify our education degrees to fit the needs of the medical constituency when we can. But we do all this organically and with an eye to maintaining the integrity of successful programs. And we find that we can do this most easily when we do not concentrate on an applied education. Our disciplines interact because they have a humanities' configuration and a long tradition of theoretical as well as applied education to fall back upon. Once regional master's degree institutions are relegated to fulfilling the needs of the government (needs specified by the infinite wisdom of legislators and boards of higher education) or react to the needs of the local giant industries, then they will be no more than trade schools, extensions of the state or local bureaucracy which controls them. It will take all the effort of administrators and faculty to arrest the encroachments of applied education which is asserting a right of exclusivity within the university. There is no doubt in my mind that master's level education is a place to begin. And if we fail to begin now, we will be forfeiting a rather precious component of a civilized community: a formal forum where education can be continued toward a meaningful purpose—the purpose of preparing students who can think as well as know.

Unless we want to continue only for the purpose of continuing—and I must confess that on the bad days I hear Samuel Beckett's *Unnameable* muttering in my ears, "I can't go on, I'll go on"[8]—faculty and administration alike at regional universities must concern themselves with developing distinctive master's degrees: degrees

—which enhance, as well as logically extend an undergraduate education

—which accommodate pressures to change and allow for change in coherent directions

—which invite collaborative and interdisciplinary learning experiences throughout the university

—which maintain an integral, not a subservient, role in society for all involved

—which set in momentum the processes of creative thinking.

Private institutions have prided themselves on being able to do some or all of these things in the past. I believe they can no longer be alone in the endeavor. In fact, more than ever before it will take a cooperative effort of all regional and comprehensive universities (an effort to which the Council of Graduate Schools might profitably address itself) to design distinctive graduate master's programs for the future. This concern cannot wait for the 1980's to be resolved.

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The Master's Degree in 1975
New Problems and New Needs

David G. Barry

Graduate education must have as its central goal, a concern for the fostering of basic research scholarship, and excellence in teaching and public service. As we approach the Bicentennial Year, it is important to keep in perspective that for most of our country's history, such scholarship was neither supported nor sought after in the American academy. The philosophical values and methods of what I will call the basic research that characterizes contemporary graduate education was imported from the German academy shortly before the turn of the century.

Between 1900 and 1940 the public investment in the creative intellect of our people in basic research scholarship increased, but very slightly. It was the onset of the German military machine in World War II and the

realization that our only alternative was to invest heavily in basic research and technological development that brought a sharp rise in support; and this momentum developed in the immediate interests of national defense. This fact has been well chronicled. James Phinney Baxter describes the frantic pace of development in his book, "*Men Against Time*".

The momentum carried forward into the post World War II period. American society continued to invest in support of research and the expansion of graduate education. Much new knowledge came forth. It was quickly integrated into the social and economic fabric of our society. Our physical standard of living continued to rise. We developed processes and technology whose consequences were of a magnitude that extended far beyond the realm of the common sense experience of most persons. And curiously we did not worry that so many were left behind.

As society we readily accepted the products of basic research but with little real understanding or social concern for the scholarship and the necessary fiscal supports that had brought them into being. It was an optimistic up-beat period characterized by questions of short-term concern in search of quick and ready answers. The long-range implications of actions taken were left to take care of themselves.

More recently, the attitudes of our society have changed. We confidently transferred the technological power of World War II into Southeast Asia but that did not produce the promised results. Neither did our continued dependence on the machine at home produce the "quality of life" that had been expected. And on occasion at least, some national figures turned that same technology to political purposes that displayed that "the great society" that had been promised was still not on the horizon.

And now with the onset of the energy crisis, linked as it is with unfilled expectations that had been placed against the promise of technology and basic research, there has been an extensive erosion of confidence in the future and disillusionment with the past. The public has become uncertain of the relevance and social value of research. Resources for support are dwindling. We hear a renewed emphasis on supporting what is "practical". We face a severe crisis in public understanding of the nature of research scholarship and the role that it has played in our country.

John Millett, dealt incisively with some of these concerns in his response address, *The Dilemma of Graduate Education*, made before this 15th Annual CGS Meeting on receipt of the Gustave O. Arlt Award in the Humanities. His previous public positions on these questions are worthy of reference as well. (see John Millett, *Educations Record*, Spring 1974). And we are not alone in expressing these concerns. The May 5, 1975 issue of the *Chronicle for Higher Education* quotes Phil Handler, President of the National Academy of Sciences, as warning us of "scattered clouds on the science horizon that threaten". These range from tightening budgets to a "powerful threat to the peer-review system" and to a "book-burning" attitude in the Congress. There is no question that graduate education and basic research are in serious circumstances . . . all of which relate to the limited public understanding of the role of research in the Graduate School.

Signs of this crisis were reported by Dr. Paul Klopsteg in a guest editorial in *Science* as early as New Year's Day 1970. He posed the question for us all . . . how can the scientist and the scholarly community at large assist the "average intelligent reader" to acquire either "adequate background to estimate the benefits" of basic research and/or enough background knowledge to understand that there is a "reasonable expectation" that funds invested in basic research will have "utility" and will bring forth results which "will contribute to the national interest."

At that time I published a statement in *Science* in which I charged that Klopsteg's editorial identified a problem that would ultimately prove to be of greater significance to the future of America than either the specific mission-oriented technology of missile payloads or the exploration of space, both of which were, at that time, assumed to be highly supportable because they possessed great "utility value" for national defense. I raised the fundamental question . . . whether we as Americans will prove able to support this very productive intellectual process we call basic research and to utilize it for broader human concerns at the rate, and in the magnitude necessary to provide the dependable information about man and nature that has become essential to formulation of long-range social policies and actions. Since 1970 the international energy crisis and the accompanying economic and environmental concerns have settled in upon us . . . all of which demonstrates the pressing importance of these questions.

Dr. Klopsteg and Dr. Handler asked for responsible action in the basic research community to earn and to hold the confidence of the public. A further call for responsibility in the educational structure of the Academy is equally in order. It is after all the educational system of America which has in general transmitted either the limited background knowledge or the "apparent" lack of understanding of basic research which has left the "average intelligent reader", or the "skeptical" Congressman with a limited concept of research that links with the short-term mission-oriented science and technology that are so much in evidence around us. We cannot avoid acceptance of some of the responsibility for the break in communication which the present state of affairs represents.

It is in this context that I ask this group to focus attention on certain problems presently confronting graduate education at the Master's degree level. Nationally, graduate enrollment trends on both public and private campuses are unstable in a number of areas, and this in a time of rising costs and decreasing public confidence and support. Some campuses have responded to these circumstances by initiating masters level outreach degree programs to "bring graduate education to the students". The stated goal is a worthy one if pursued through quality program development. However, where such programs are not pursued with concern for excellence as a primary goal, their development is not only a dis-service to students but their presence will eventually further erode public confidence in graduate education thus aggravating the constraining circle of events just described.

Some few degree programs have not only moved off-campus but out-of-state as well. I offer a hypothetical example for scrutiny. The

"home campus" has a small faculty and is experiencing decreasing enrollments with the fiscal pressures that follow. In attempt to resolve some of these problems it uses its degree granting authority to attract student interest in off-campus courses offered in rented space and using part-time faculty recruited locally. Under these circumstances, capitol investment in plant, continuing investment in faculty salaries, and library resources and other program supports usually considered essential for quality graduate education are not involved. What is involved are the student fees that pay the program expenses and provide a level of income that can help offset fiscal problems on the "home campus." It has been reported that some institutions have accepted such course credits for in-transfer, listing them without identification among regular credit listings. This provides definitions of legitimacy to such courses that may or may not be justified but whose validity cannot be determined from inspection of the records. And it is the student who falls short later because of inadequate background from these experiences.

This hypothetical example bears careful scrutiny because with a few differences in structure the pattern could very well represent a number of legitimate, well-planned and badly needed campus out-reach programs that are presently providing on-site educational programs of high quality and service to a population of students that on-campus programs do not serve well at all. The central issue in evaluation of the patterns is the real program intent, the quality of the learning experiences offered and their extended significance to the student.

I think the fact that programs of questionable value can attract enrollments indicates that there is a large off-campus population of potential students interested in part-time and adult level programs that should be served. The first interests of that population may be limited to gaining certification or salary increments. What is important to consider is the quality of educational experiences can be offered because first interests, followed by articulation with an informed scholar and skillful teacher can lead to identification of second level interests that become the student's base for continued personal and professional growth.

Such learning has significance for the student and for our society because it is linked with quality graduate scholarship. Such linkage can enhance the expansion of understanding of the processes of basic research and the central role that it must play in the future of our increasingly science-based society.

More must be done to provide these students with an alternate choice of quality out-reach programs in pursuit of their further education. This will require cooperation between the Academy, the Council of Graduate Schools, the State Departments of Education and the regional Accreditation Associations to accomplish. The Academy should consider what changes in curricular programs and in the fixity of requirements are necessary to reach these students. I can see room for flexibility in course sequences and for planning of individualized study. I can as well see sound reason for well-planned on-site work learning internships in professional programs. I am less clear on how to provide experiences in basic research

that will develop the important cultural understandings I have defined. This will be our greatest challenge.

I recognize that no one pattern or solution will fit all professional and academic degree work equally well. This increases the complexity of our task and I call on everyone to consider the seriousness of the problems that are involved and seek solutions which fit their individual campus circumstances. It is in the interest of our students and the national interest as well that this be done.

The Urban University: Problems and Opportunities

Moderator: Edward Joseph Shoben, Jr., *University of Pittsburgh*

Graduate Study In Urban Universities In A Time of Stringency

Edward Joseph Shoben, Jr.

On the eve of the Bicentennial year, it may be well to consider the circumstances that urban universities share with other kinds of institutions of higher learning before we turn to some of their more distinctive conditions, problems, and opportunities.

Whatever the dangers of prophecy, there seems little risk in hazarding the guess that all universities over the next ten years will face seven tendencies that contrast sharply with our experience of the 1960's:

1. A progressive reduction in the demand for new Ph.D.'s to serve as college and university teachers—an erosion of the career opportunities that traditionally have brought a sizeable proportion of the students whom we most prize into programs of graduate study.

2. Because it is probable that the national investment in research and development will decline in its rate of growth, both in the value of adjusted dollars and relative to the pattern of the last decade, it follows that at least the rates of demand for new Ph.D.'s in these enterprises will drop significantly. This likelihood, even though marginally offset by stepped-up R & D efforts in some specific fields, like energy research, further eats away at one of the foundations of student interest in graduate education.

3. Unless there is a dramatic shift in national priorities, perhaps originating in some fateful emergency, or unless some new developments of significance for the solution of some major national problem occur in one of the disciplines or professions, we cannot sensibly anticipate any sizeable new forms of support for graduate education from either federal or state governments.

4. The now familiar projections of the diminishing cohort of college goers between the ages of 17 and 22 inevitably imply diminishing enrollments over time at the graduate level. Because these projections do not hold for minority enclaves of the American population, however, and because the level of aspiration within minority subcultures continues to rise, there is every likelihood that the proportional demand for graduate opportunities from this source will significantly increase. A similar increase can be expected from women, especially those searching for new roles after childbearing.

from older people of both sexes, and from the fully employed who are interested in combining part-time study with work. Obviously, the composition of graduate student bodies seems destined for changes of important kinds, and the directions of those changes lead most of our graduate enterprises into territories with which we are unfamiliar and in which we may be less well equipped to function than we now consciously anticipate.

5. Financial support for full-time graduate students, from all available signs, seems almost sure to continue its decline. To the extent that it does, this trend puts a premium on loans and on self-support; self-support, in turn, probably will increasingly mean jobs beyond the capability of most institutions to supply them, in the form of teaching or research assistantships, with a resultant increment in part-time study arrangements.

6. The focus on accountability will surely sharpen and intensify, emphasizing cost analyses, program evaluations involving extramural investigators, and an often uncomfortable search for indices of output and performance in graduate education.

7. While universities adjust themselves to a reduced overall production of Ph.D.'s, they can expect highly differential patterns in demand over traditional disciplines and a rising and differentiated interest in and demand for doctoral training in new fields, most of them interdisciplinary and many of them defined in significant part by technological and social developments and needs in our culture. The required degree of flexibility and the willingness to work toward highly specific but seldom entirely clear targets of opportunity here will strain the historic organizational dynamics that most universities have lived by and frequently entail hard questions of what must be given up to permit the launching of promising new enterprises in graduate study.

This last item touches on a set of history-generated expectancies that universities widely share and that may have special significance at this point for urban universities. Since World War II and its mobilization of academic laboratories and other resources, since the postwar era of large veteran enrollments, and since Sputnik's circumnavigation of the globe in 1956, academic institutions—at least those with substantial capacities for research and for graduate study—have developed essentially by a more or less straightforward process of addition. Whatever the problems entailed by growth (and they have been far from negligible), growth has modally occurred by simply adding new ventures in graduate education and research without the necessity for eliminating any previously established programs. In the case of urban universities, it seems reasonably clear that, responsive to newly clarified and socially significant metropolitan dynamics, most of them took on the responsibilities of their urban mission by sheer addition.

Indeed, the now slightly defensive and often heard claim that "We are a university first and urban second," although it certainly has meaning of an important kind, seems to derive in part from that adding of urban commitments to the more traditional academic efforts that had become institutionally rooted prior to the compelling advent into academic consciousness of the manifold and distressing problems of our cities and of a population packed ever more densely into urban areas. The phrase suggests that the marriage has not proved entirely compatible, that the move of urban objectives and urban issues into the house of intellect has evoked an occasional struggle within the enlarged *menage*, and that the addition of urban concerns, even without a serious threat to the resources undergirding more conventional academic undertakings, has sometimes made for minimally productive conflict and difficulties.

Now we seem to have entered an age when university development can no longer proceed through enlargement by addition but must operate through the processes of redeployment. If the steady state that we hear discussed on every hand is to define the kind of dynamic equilibrium on which all systems fundamentally depend, than an essentially fixed quantity of resources must be susceptible to ready diversion from the service of one goal to the service of another as patterns of opportunity shift, as clarified social needs emphasize clarified educational responsibilities, and as new problems of human importance demand new investments of the intellect in their solution. This strong probability does *not* sanction a university's running before any wind of change that blows in a culture unprecedentedly subject to heavy and uncertain weather. One of the critical functions of the academic way and of the examined life is the responsible and informed assessment of what constitutes fad and fancy in the human condition as against what represents the serious and enduring issues that men and women must resolve in the interest of their safety, their self-realization, and the enhancement of the corporate, societal base in which they inevitably must ground themselves. It does mean, however, that two problems, with neither of which have universities recently developed much familiarity, are likely to come into centrality.

One of those problems is precisely that of scanning the world (whatever "world" an institution regards as relevant) in an anticipatory fashion to determine the trends, needs, and developments that profoundly affect educational obligations and opportunities. Something of this sort is frequently referred to under the heading of "setting priorities," but it rarely occurs at the levels of sophistication likely to be necessary if it has not already become compulsory. Available funding, public attitudinal as well as financial support, student enthusiasm, and the appreciated significance of universities as social institutions are likely to hinge to a large degree—not wholly, but to a large degree—on this kind of developed sensitivity and responsiveness. In our complex era of economic stringency, the time may have passed when a well established curriculum, taught by highly specialized scholars committed to conventional disciplines, defines a sufficient condition for an institution to enjoy adequate underwriting and even acclaim. A few universities, favored by history, long-term wealth, and

a long record of an elite student body, may prove able to bring it off; there is room to doubt that many will.

The other problem arises from shifts in the composition of graduate student clienteles. As the proportion of graduate students from minority backgrounds rises, and as we deal with at least relatively larger groups of women, people in mid-career circumstances, older persons, and the fully employed, we will be under pressure to revise our notions of both where and how educational services can be most effectively delivered. Outreach programs, more technologically sophisticated means of increasing the component of independent study in graduate work, a system at once humanly dignified and educationally efficient of developing to a high level such basic skills as reading and writing and computing, and improved advisement and counseling for students who are more mature and experienced than usual but who are puzzled and concerned about their options and will be much in demand. But changes in the identities of students entail alterations not only in educational place and procedure, but in the curriculum itself. The shifts that can be sensibly anticipated here suggest that tomorrow's clienteles will have clearer ideas about the nature of their needs and a more critical stance toward proposed ways of meeting them. Whether student orientations tend toward occupational and professional goals, toward self-development of a broader sort, or toward the playing of a more informed citizen's role through a richer understanding of the contemporary forms assumed by great human issues, they are likely to require a greater and more inventive degree of cooperation and mutuality than we have had to mobilize previously among the disciplines and professions that historically have defined our departments and constituent schools.

But it is in research and scholarship and in the richly formative impact that research and scholarship have on instruction and training that the distinctiveness of the urban university comes into focus. When we face the problems of our great conurbations—street crime and urban pollution, transportation snarls and interethnic hostilities, sharply rising living costs twinned with industrial unemployment, the chaotic state of metropolitan schools and the decay of city cores, the aesthetically offensive quality of much of the urban environment and both the technical and the ethical issues in city government and management—we confront issues that defy our customary deployment of academic talent and our organization of the resources in intellect and vision that define the basic values of a university. There is no argument implied here that an academic institution's total commitment, whether it be "urban" or otherwise, should be invested in the resolution of these great difficulties; any house of intellect must make room for attention to some questions which transcend time and reflect only those concerns of the mind and spirit that lie close to the fundament of what is best in the idea of civilization. But *some* universities lie under a social obligation to devote *some* of their capabilities to the unraveling of these kinds of confusions and distress. Those that meet this obligation are the urban institutions as opposed to those that, like the original medieval universities, are simply located in cities. In accepting such a role, they

encounter conditions that, among other things, raise crucial questions about the dimensions of quality in graduate programs and in urban research and about the appropriate criteria that may be used in making judgments and in applying our reward systems in such still novel contexts.

For example, virtually all of the issues that we identify under the rubric of *urban* involve a vital normative element. None of us has proved very adept or very persuasive at thinking our way through these valuational problems, and perhaps a major component in the "quality" of our efforts is the critical opportunity provided to learn how better to attempt this inescapable task. In any case, the urban realm is not one in which we can pretend to make the usual assumption of at least an approximation to freedom from value assumptions in our cognitive processes, and we may find it essential to attend to the kinds of human abilities that are entailed here and to the question of how they can be more effectively cultivated.

Second, what we regard as urban problems differ in significant ways from disciplinary problems. The former take their significance from human experience and the fashion in which people from diverse backgrounds and occupying diverse social positions interpret that experience. The latter acquire significance primarily by virtue of the unfolding of an internal logic and a set of formal intellectual criteria. This difference seems compounded by two additional though related conditions: urban issues preclude ownership by particular disciplines or by particular professional schools; they simply do not fit the contours of the fields of knowledge or the organizational charts that we have found—and continue to find—useful in academic settings. And urban problems ordinarily demand efforts both larger in scope and messier in character than the conventional individual or even specialized-team approach that follows the historic academic model. Caught in a web of rather different definitions of significance, of transdisciplinary responsibilities, and of both unfamiliar expectancies and unfamiliar patterns of investigative work, how do we evaluate "quality"?

Third, it seems at least plausible that graduate education along urban dimensions focuses distinctively and in an unusual manner on the potential for growth in the people who participate as well as on the formulation and the solution of more impersonal and abstract problems of a basically cognitive type. Does a highly relevant consideration of quality entail assessments of increments in interpersonal sensitivity and perceptiveness, in empathy for and an ability to work with members of different subcultures, in capacity to cope with both the range and the intricate interrelationships of information and ideas relevant to the hurlyburly of metropolitan life? One need not prejudge the question to admit its importance and the need to examine it with some care and thoroughness; one can even entertain the hypothesis that demonstrable utility in graduate programs of urban studies is a function of how effectively they promote these varieties of personal development. To the extent that such a case is defensible, it calls for quite different touchstones than those used in most judgments of academic quality.

Fourth, the rather typical model of academic quality involves estimating of how much students have learned by sitting at the feet of academic

masters. In many situations, that model is precisely the appropriate one; and if some of us as professors are a bit more or less "masterly" than some of our colleagues, we all attempt, in greater or less degree, to mold students according to our best image of our professional selves. Embarrassments arise in the realization that, in relation to the urban scene, few of us qualify as masters. At best, we can exemplify some of the ways by which human beings have learned to roll back the frontiers of their own ignorance; and relative to our students, we may possess a larger store of experience and learning germane to the issues that we confront with them. But such observations seem to lead toward conceptions of the instructor as in some respects a senior co-worker in domains where the nature of expertise is not well understood, and they suggest the desirability of enlarging opportunities for learning through off-campus placements and internships for reasons quite different from those that underlie similar arrangements in engineering or medicine. When the professor is a manager of learning and something of a partner to the student in a realm of inquiry and in the tackling of a problem, how do we evaluate quality?

Finally, most of our academic disciplines develop in a fundamental way through the refinement of investigative and analytic methods. Our methods significantly determine the nature of the problems that we attack, the acceptability to the editors of our most prestigious journals of the articles that we write, and the sternly disciplined bounds within which we restrain our professional imaginations and our speculative impulses. In the fields that our academic disciplines define, very few problems have the urgency that warrants a transcendence of methodological fashion. In urban affairs, urgency carries much more weight; substance is harder to deny or to subordinate, and the criteria of worth appear muzzier, far more immediate, and far less abstract—witness, for example, community mental health programs, conducted by university-based teams, in economically impoverished and ethnically disenfranchised neighborhoods. Here again we find challenges to our usual ways of estimating quality and exercising our reward systems.

These items, understood against the background of stringency sure to affect virtually all of our graduate institutions over the next decade, now define an agenda of high importance for graduate education generally and certainly and particularly for those universities that designate themselves as urban in their missions and in their commitments. Working through them will not be painless, and one can only sympathetically respect the defense mechanism of avoidance and denial that they tend to evoke. Engagement here, however, may help us, Horatios to an urban Hamlet, to learn that there are more things in heaven and earth than are dream't of in our modal academic philosophy. In learning that and in acting on it, we may exemplify that humane and socially concerned life of the mind that from the beginning has specified the ideal of the university.

Disadvantaged Students In Graduate Study

Moderator: I. Wesley Elliot, *Fisk University*
Oscar A. Rogers, Jr., *Jackson State University*
Bernard Spolsky, *University of New Mexico*
Albert H. Yee, *California State University, Long Beach*

Disadvantaged Graduate Students

I. W. Elliott

Welcome to the workshop entitled "Disadvantaged Graduate Students." My name is Wesley Elliott and my role is to provide a brief introduction to the topic, to present a distinguished panel of speakers and hopefully to moderate a useful discusson among all of us on a matter that is still of urgent concern for graduate education and society generally. Since the program does not provide the names of the persons who will speak, let me introduce in a preliminary way the persons at the table with me. They are Dean Albert Yee from California State University at Long Beach, Dean Oscar Rogers from Jackson State University and Dean Bernard Spolsky of the University of New Mexico.

Without going too far back in history, we can be reminded that in 1954 the Supreme Court of the United States ruled in *Brown vs The Board of Education* that "separate but equal" was no longer an acceptable national policy. In the middle 1960's congress passed the first civil rights legislation outlawing segregation in public accommodations. It was in the late 1960's as far as I have been able to determine that the Council of Graduate Schools established a task force on disadvantaged students to provide leadership to the Council on problems of access by minority students to higher education. We might say that the graduate deans have not rushed in.

About three years ago, some of the work of the task force was seen in concrete form in a joint CGS-GRE study ably conducted by Bruce Hamilton, entitled *Graduate School Programs for Minority/Disadvantaged Students*. This study reported what was in effect on some campuses in 1972-1973. About the same time several surveys and research projects revealed the magnitude of problems of underrepresentation of minority groups in graduate education. I shall not repeat the data now; I presume that most of us are aware of the dismal statistics. Partly in response to the situation there have been a variety of activities for minority students from other sources, including two important projects of the Graduate Record Examinations Board. These are the *Minority Graduate Student Locater Service* and the publication *Graduate and Professional School Opportunities for Minority Students*. The first can be a help for institutions seriously interested in broadening their minority graduate student enrollment as well as an aid to potential minority graduate students seeking entry into graduate programs. The latter is a useful work in many ways—both as a

source of information on a variety of subjects affecting graduate admission procedures and support and on specific programs.

Some foundations and professional organizations have established scholarships and fellowships for select groups of minority students, and a few federal mission-oriented agencies, such as N.I.H., have programs that provide a modicum of support for graduate education and research training in areas of science. Incidentally, the booklet I mentioned on *Graduate and Professional School Opportunities* provides one of the best up-to-date sources of information on some of the sources of funds available on a nation-wide basis in its introductory section and is helpful for advising students.

In the realm of studies and recommendations there is already a comprehensive bibliography of all sorts, and the National Board on Graduate Education includes in its list of projected publications a *Board* report entitled *Minority Group Participation in Graduate Education*.

Beyond further studies (of which there are a plethora) and in the face of the persistent underrepresentation of minority students in the graduate schools and among the recipients of graduate degrees—the task force is now considering what next appropriate steps to take.

Our first speaker is Dean Oscar Allan Rogers. He is a Dean of the Graduate School at Jackson State University in Jackson, Mississippi. Sometimes, even at this meeting he has also been wearing another hat as President of The Conference of Black Graduate Schools.

The second speaker in this workshop comes from still another perspective. Dean Bernard Spolsky was educated in New Zealand and Canada. He is currently Dean of The Graduate School at The University of New Mexico and also a member of our Task Force.

Our third speaker is Dean Albert H. Yee. He is Dean of Graduate Studies and Research at the California State University at Long Beach, and his academic field is Educational Psychology.

Disadvantaged Students in Graduate Study: Some Impressions

Oscar A. Rogers, Jr.

I am to speak to you about some concerns related to disadvantaged students in graduate study. I have little if anything to say that is new. What I want to do is to provide you with some of my impressions about teaching disadvantaged students.

For some fifteen years I have taught disadvantaged graduate students. To be sure, during most of this time I did not know that they were disadvantaged. I was and am so much like them. Most of these students were aspiring to be teachers or were inservice teachers. Most of them were from first generation college families. Many had problems when writing and speaking, but so do presidents of the U.S. and Congressmen. Writing and reading skills can be taught, and they have been taught. Most of the students lacked library and research skills but these deficiencies were the

partial responsibilities of the extensive library staffs and professors in research and statistics courses. Many were from families with extremely low incomes, few of which were lower than the income of my mother and others who were the sole providers for our families. Whereas my high school was staffed with only three college graduates for all twelve grades, fewer of my students were from such schools. Their schools were, however, segregated institutions which received the short end of public appropriations. My students' schools were unequal to those of the majority members of their several communities.

My students and most of my colleagues were and still are from disadvantaged circumstances. They have been disadvantaged in most aspects of life. Their quality of life has been unequal. Their standard of living is lower than the average of the nation.

Judging from the attention the various associations of graduate and academic deans are giving graduate education for disadvantaged minorities, I can add little but commendation. Colleges and universities throughout the country are putting forth efforts to recruit high potential black students. They have employed administrative assistants, assistant and associate deans for the graduate schools to recruit and counsel minority students. These colleges and universities have acquired considerable experience worthy of studying. I am not saying the universities are doing enough. What is enough?

Dr. John A. Peoples* gave some sound advice to the 27th Annual Meeting of the Midwest Conference on Graduate Study and Research at New Orleans in 1971. Speaking at Berkeley University of California in 1973, Dr. Layette Frederick, Chairman of the Biology Department of Atlanta University, concurred with many of the ideas expressed by Dr. Peoples. And Dr. Larry Shannon of Iowa State University whose speech is recorded in MAGS** Proceedings of this year, quoted Dr. Frederick, and proceeded to expand his ideas into the area of a suggested dynamic recruitment program. On yesterday Dr. Mack Jones, Chairman of the Department of Political Science, said something I wish I could say about disadvantaged students. Nevertheless, I must relate the following:

1. All of my black students are not and were not disadvantaged. They, of course, living in a society which discriminated against them thus disadvantaging the disadvantaged. They, however, were not disadvantaged in that the effects of segregation and discrimination were not adversed. In many cases some students possessed extremely high motivation and intelligence, and displayed many skills necessary to successful entry to and exit from graduate school.

2. During the early sixties my graduate students were more pliable. They questioned less and accepted more readily things as they were

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**Mid-Western Association of Graduate Schools.

expressed and perceived. After the start of the "black is beautiful" and other self-pride movements, a noticeable change occurred among students. They questioned the direction of society, instructional content and methods, and the power base. Younger black graduate students were most vociferous. One thought they had been disadvantaged less but their voices and behavior indicated less acceptance of the status quo. Entering graduate students are smarter and more alert. I only question their capacity to apply themselves as diligently as they should. To this my son says, "But Daddy, you don't understand."

3. All disadvantaged students taught by me have not been black students. A number, a surprising number, have been white with economic and scholastic traits common to low income students. In fact, in my rather vast university studies as a student I have found a wide range of abilities among white students who possessed many of the adversed disadvantaged traits. Perhaps such traits are normally distributed among our general population.

4. I believe the effects of being disadvantaged whatever one's racial background is intolerable in this day and age. I cannot understand why we cannot launch an all out ten-year effort to do something significant about the quality of American life in general and the total educational system in particular. If we could somehow generate as much interest in eradicating illiteracy and the lack of coping skills as is created for football, I think the quality of life would be upgraded considerably. If a university spent as much time and money on the disadvantaged as is spent on perfecting football plays and conditioning, its faculty could make a much more meaningful impact on the lives of more students. As Dr. Jones said, "the wealth of the nation is people." I would readily accept the challenge to utilize such resources and techniques to produce Rhode Scholars, scientists and humanists from the ranks of the disadvantaged black minorities. I have always admired the time and patience of coaches and athletes. They go over and over certain plays to produce the desired behavioral modification. Graduate faculty under more favorable circumstances and with the same determination could produce scholars, overcoming initial handicaps. Dedicated black and white faculty members of many of our nation's schools are doing just that. Countless numbers of disadvantaged students have succeeded at the most prestigious universities.

5. I can cite several models of extraordinary efforts on the part of humane department heads at several universities across the nation. In Arkansas, Dr. R. K. Bent with the support of the graduate faculty recruited literally hundreds of blacks and disadvantaged whites for graduate degree programs. At last count at least 60

doctorate holders graduated with his assistance. Several dozens of these were blacks who are now playing significant roles in the nation.

A sociology department in Washington State has produced a significant number of black Ph.D.'s. Likewise has a history department in Indiana achieved results worthy of note.

A University in Rhode Island has among its graduates a good percentage of black Ph.D.'s.

Similar cases can be made for universities in Michigan, Iowa, Illinois, Florida, North Carolina, Georgia, New Mexico and California as well as other states. Dr. Mack Jones spoke of the efforts of Atlanta University in Political Science.

6. Scores on various tests have their value and should be utilized. The average scores of many disadvantaged populations on the Graduate Record Examination is around 700 on the aptitude section. There is every indication that the scores of entering students are improving. Other skills and competencies are also improving. Continued research must be done to limit the cultural bias of tests. In any case, test scores should be only one criterion used in admitting students to graduate school.

7. Where does all of this leave us? I suggest that whereas there might be a glut of Ph.D.'s among the majority population *such* is not the case among blacks. There remains shortages of black humanists and scientists. They can find readily available employment in some 109 black senior and junior colleges, other institutions and businesses. By any measures, blacks are blatantly underrepresented in most fields in which higher education is a prerequisite. Concerned undergraduate and graduate faculty members can make meaningful differences individually and collectively.

During times of prosperity significant social changes were made in terms of compensating blacks for years of malignant neglect. Affirmative action programs, special service programs and inspirational teaching efforts at many of the nation's universities gain ground. It is our prayers that whatever gains were made should be maintained and added to. Budget cuts and quotas might well be unavoidable; yet, somehow blacks and other minorities should be given high priority by admissions persons.

The early identification of good potential black students must be made. Those baccalureate students are to be encouraged to attend college, and opportunity must be made available for more graduates to enter graduate schools. I am rather certain that the 1980's will see more blacks joining the ranks of faculties of more universities across this land. This can only be

obtained through a continuation and an increase in efforts to provide opportunities for blacks today to enter graduate schools.

Disadvantaged Students In Graduate Study

Bernard Spolsky

The 1973 survey conducted by the Council of Graduate Schools and the Graduate Record Examinations Board under the direction of I. Bruce Hamilton made clear that some progress is slowly being made in graduate school programs for minority students. I want to talk this morning from the point of view of a new Dean at a university where there has been good progress in minority enrollment. At the University of New Mexico, minority student enrollment in the Graduate School rose from 10% in 1971 to over 13% in 1975, so that it is now almost equal to the proportion of members of the ethnic groups with college education in the state. When we go beyond our state and compare our minority enrollments with graduate schools with a thousand or more students, we seem to be doing just about as well as anyone else. The University of New Mexico has the largest percentage of Spanish surnamed graduate students of any graduate school of this size. We are in the top half dozen for percentage of American Indian graduate students and only eight schools in the nation have a lower "Anglo" percentage than we do.

I do not believe however that we can claim to have reached a final goal in this area. When we consider that the Spanish surnamed population of the state is close to 40%, the fact that 10% of our Graduate School comes from this group cannot be a cause for complacency. It would seem however that a good deal of the activities in improving this percentage need to be carried out not by the Graduate School itself but at earlier stages: in undergraduate education, in the high schools, and in the elementary schools. Realizing that graduate level minority enrollments are ultimately dependent on the existence of a substantial pool of minority undergraduates, the Graduate School's Minority Subcommittee is urging that the new University Recruitment Committee include a minorities subcommittee. It is also concerned to see appropriate counseling and guidance at these earlier levels so that minority students be prepared for Graduate School.

It has also become clear that while the overall figures for the Graduate School show signs of progress, some departments have been extremely slow to build up any significant proportion of minority students. We now have an admittedly cautious opinion from the University's lawyer that considers it legal to establish minority admission goals. Armed with this opinion, the Graduate School Minorities Subcommittee plans to encourage departments to set such goals. Part of this encouragement is a projected spring conference to which all departments will be invited dealing with the problems of minority recruitment and retention.

All of these activities at our university and others are going on in an

atmosphere of considerable concern produced by the uncertainties of the possibilities of employment for future graduates. Some deep concern is caused among many of us by this situation. For some time now, before I have personally agreed to work with a doctoral candidate, I have wanted to be sure that the candidate has a full understanding of the difficulties of the job market that he or she will be facing. In such a situation, when graduate education is no longer a guaranty of employment, I wonder about encouraging minority students to go into overproducing academic fields. When such students graduate, will they find jobs that will take into account the level of their training? One considers the way in which we have treated women graduates. While we continue to accept them into our graduate schools, very few are employed on our graduate faculties. They keep our classrooms filled, but do not teach in them. Will we take the same kind of approach with minority graduates? Having admitted them to some special kind of program, will we decide that they are better suited for nonacademic employment?

I do not intend that these concerns be considered as arguments against minority programs, any more than I believe that the threat of overproduction of Ph.D.'s should be used as a reason to close graduate programs. But these are facts that we needed to take into account in our thinking and planning for minority student programs. Our arguments for such programs should not stop with the notion of equality of opportunity, for it is not certain that a minority graduate student will have the same opportunity for employment as did those students who completed their degrees over the past fifteen or twenty years. We need to argue rather for the special values that minority students can bring to higher education in general and graduate education in particular. At a time when graduate schools are facing the threat or promise of a new elitism, it is of fundamental importance that we find ways to keep the university open to divergences of thought. The minority student in the graduate school brings into it a set of ethnic traditions and values that can stimulate and enrich the traditional values associated with graduate education. If we argue in these terms, we are arguing not just for improving our programs for minority enrollment in graduate education, but also asserting the need to find places for these minority graduates as members of the faculty of our universities and graduate schools.

Discontinuities In Minority Graduate Education: The Case of Asian Americans In The Social Sciences and Education

Albert H. Yee

Asian Americans come from an ancient and honored tradition of educational achievement and status. It is a rare American who knows that the Chinese originated the first civil service system over 2,000 years ago. Through its effect upon the development of India's civil service system and hence that of England, China influenced Western systems of civil service.

Also, few Americans realize that the Chinese based its social-political system on educational attainment and proven merit (Kracke, 1953 pp. 1-6). Entrance into and advancement through the administrative system of the government depended upon other Chinese inventions—the objective examination and academic degrees.

To become a high imperial official, a person had to pass a series of highly competitive examinations and the third and highest degree status, the *chin-shih*, which few obtained. Held in the imperial court of Peking, the most prestigious examinations involved the participation of the emperor. Preceding the *chin-shih* were the *hsiu-ts'ai* or "cultivated talent," the bachelor degree awarded at the local provincial level, and the *chu-jen* or "recommended person," the master's degree from examinations held at the provincial capital.

In 124 B.C., an imperial university was established for the education and testing of officials. Stationed in uniform cubicles, the examinees were provided standard facilities including cooking utensils for the many days' examinations. Anonymous numbers identified the papers they turned in for evaluation, and many would-be scholar officials committed suicide if they did not pass. Through the centuries, the scholar-gentry represented China's ethos and the nature of her status quo. According to Balazs (1964, pp. 6-10), the famed sinologist, "the uninterrupted continuity of a ruling class of scholar-officials or 'officialism' was the most striking feature of China's history."

In the United States, Asian Americans have followed traditional values and made good use of educational opportunities to promote the social mobility and acceptance of their children. Civic and educational officials in San Francisco, such as Mayor Joseph Alioto, have consistently expressed pride for the superior attitude and achievement of Chinese students. Their studiousness and motivation have caused San Francisco teachers and those in other communities with Chinese population to desire Chinese youth as students. Juvenile delinquency rates have been the lowest among Asian-American groups, and their crime rate is also the lowest of all major ethnic groups. Educational and other social indicators reflect the traditional conformity of Asian Americans to social norms and drive to have their children succeed through avenues valued in the United States (Hsu, 1971). Typically, first-generation Asian Americans have sacrificed their own pleasures and educational attainment to provide the means for their children's education. The success story of Asian Americans has not been shared by all and developed without disproportionate benefits.

Data and Analysis

Accordingly, the 1970 census data as analyzed for HEW by Urban Associates (1974) indicates that "the Chinese present a disparate picture of extraordinarily high educational attainments, coupled with a significantly large population of uneducated" (p. 72). Of Chinese males, 16 or older, 25% had completed college degrees which is about double the U.S. average

of 13%. For Japanese Americans, 20% of the males in California have four or more years of higher education. Chinese- and Japanese-American males average 12.6 years of schooling, which is only half a year greater than the U.S. average, thus reflecting the lower percentages for the senior Asians as well as marked differences between the Japanese in Hawaii and California. However, although the percentage of Chinese women who completed college is twice as great of the U.S. rate for females, their percentage is 8% below Chinese males. The data analyzed must be viewed as conservative, since only first and second generation Chinese and Japanese are included. Including data on third and fourth generation groups, the results no doubt would show greater educational achievements for males and females with less skewing effect by the elderly, many of whom could not attend or continue long in school. From 1972-75, Asians were awarded 7.4% of the doctorates granted by the 46 universities comprising the Association of American Universities, a body which awards 75% of the doctorates in the U.S. (McCarthy and Wolfle, 1975).

Reflecting the high percentage of those with college degrees, one-third of the employed Japanese males and 40% of the Chinese men are found in professional and managerial occupations. The Japanese who work in higher status, white collar professions tend to be foreign born and have qualified for immigration by virtue of their high skills. The Chinese tend to enter engineering and health fields as professional workers and pursue retail and wholesale trades as managers.

Underemployment, however, characterizes the Asian-American situation, especially for the foreign born. As the census report put it, "... despite the highly skilled background of a majority of Asians who have immigrated to this country, due to factors which includes discrimination, non-citizenship status, licensing requirements or lack of ability in English, many former professional workers have been forced to shift to lesser skilled non-professional occupations" (p. 99). For the entire U.S., the upper status occupations show ratios of 1.5 men and 1.0 women for all men and women who have completed at least four years of college. In comparison, the Chinese are 1.1 male and 0.7 female, while the Japanese are 1.3 male and 0.9 female. Therefore, with educational level considered, the proportion of Asian American workers in high status jobs is not equal to the total population and the professional skills of Asian Americans, especially for the Chinese, are underemployed. The census data shows that persons in the majority population obtain high status jobs more easily without a college degree than do Asian Americans.

Further analyses of the voluminous 1970 census data will give a clearer picture of what professional occupations Asian Americans hold and have sought to enter. An impression is gained from a China Institute study (Chih, 1974) which tabulated the doctoral dissertations of China-born Chinese students from 1905-1960. Remembering that many persons holding doctorates do not complete dissertations, especially in the health fields, the 2,462 dissertations are not comprehensive nor are they up-to-date. However, the distribution of professional commitment shows a strong preference for the physical sciences with 28% of the degrees, of

which chemistry is by far the highest (409), physics second (177) and astronomy-astrophysics the lowest (5). According to the American Chemical Society (1974), over nine per cent of the 1973 chemistry graduates with masters and Ph.D.'s were "Oriental" and 4.3% of the Ph.D. chemists employed are "Oriental" compared to .8% Black and .5% Spanish surnamed. Asian Americans are relatively well-represented in chemistry.

In Chih's study, engineering sciences, with 24% of the doctorates, formed the second group with electrical (134), mechanical (119) and civil engineering (118) the most popular specializations. The third group which I will term life sciences (biology and earth) comprised about 23% of the total. The fourth highest group was the social and behavioral sciences with about 22%. Economics and business degrees comprised the bulk of this group with 242 doctorates. The remainder included international law and relations (95), political science (72), sociology (53), psychology (46), and law (40). We should note that no dissertations are reported for the humanities, educational research or even education. Related disciplines, psychology and sociology combined, comprise only about 4% of the total.

Chih's results are corroborated by a 1973 survey of earned doctorates conducted by the Commission on Human Resources of the National Research Council (1974 b.). Showing that "Oriental" doctorates totaled 6.4% of the 27,227 (or 81% of the 33,727) returning questionnaires, compared to 0.8% for Chicanos, 2.7% for Blacks, and 81.7% for Whites completing doctorates, the fields of study and their percentages are given in Table 1 (Commission, 1974, p. 4).

Table 1 clearly shows the predominant choice of Asian Americans for the sciences and their relative neglect of other fields such as arts and humanities (A & H) and education. The category, "Prof. Fields" in Table 1 is not defined in the published report, but does not seem to cover law and health sciences since the numbers are so small. Analyzing the same data, McCarthy and Wolfle (1975, p. 859) wrote:

> Students of Asian ancestry concentrate in the sciences and engineering; over 80 percent of the 1973 doctoral recipients took their degrees in one of these fields. The concentration is about equally marked among U.S.-born students of Asian ancestry and those of foreign birth. The concentration is also consistent with past trends; 75 percent of all minority members of the national stock of doctoral level scientists and engineers are of Asian background.

Table 2 reproduces the report's (Commission, 1974 b. p. 5) profile data on the 2,884 doctoral recipients who reported themselves as minority members.

Invariably, such data raises more quesitons than it answers, such as breakdowns according to sex and fields of study, etc., by ethnic groups. However, most notable for this paper is the great percentage of "Orientals" completing doctorates in the non-U.S. citizens category—85.1% of the total. My guess is that most of those graduates are Chinese rather than

TABLE 1

Field of Doctorate

Racial/Ethnic Group		Phys. Scncs.	Engr.	Life Scncs.	Social Scncs.	A & H	Prof. Fields	Educ.	Total	
White/Caucasian	No.	3,396	1,902	3,185	4,069	3,894	994	4,811	22,251	
	H%	15.3	8.5	14.3	18.3	17.5	4.4	21.6		
	V%	78.3	69.5	78.2	84.8	87.3	86.6	84.9	81.7	
Black/Negro/Afro-Amer.[a]	No.	45	27	66	87	74	24	382	735	
	H%	6.1	3.7	13.1	11.8	10.1	3.1	52.0		
	V%	1.0	1.0	2.4	1.8	1.7	2.1	6.7	2.7	
American Indian[b]	No.	10	7	17	21	18	1	34	108	
	H%	9.3	6.5	15.7	19.4	16.7	.9	31.5		
	V%	.2	.3	.4	.4	.4	.1	.6	.4	
Span.-Amer./Mex.-Amer./ Chicano[c]	No.	35	14	19	26	49	4	38	215	
	H%	16.3	6.5	22.8	12.1	22.8	1.9	17.7		
	V%	.8	.5	1.2	.5	1.1	.4	.7	.8	
Puerto Rican-American[d]	No.	3	3	7	8	6		10	37	2,884
	H%	8.1	8.1	18.9	21.6	16.2		27.0		
	V%	.1	.1	.2	.2	.1		.2	.1	
Oriental[e]	No.	480	476	372	190	84	36	93	1,731	
	H%	27.7	27.5	21.5	11.0	4.9	2.0	5.4		
	V%	11.1	17.4	9.1	4.0	1.9	3.0	1.6	6.4	
Other	No.	10	17	7	8	11	1	4	58	
	H%	17.2	29.3	12.1	13.8	19.0	1.7	6.9		
	V%	.2	.6	.2	.2	.2	.1	.1	.2	
No Useable Response	No.	359	292	349	387	325	91	288	2,092	
	H%	17.2	14.0	16.7	18.5	15.5	4.2	14.2		
	V%	8.3	10.7	8.3	8.1	7.3	7.8	5.3	7.7	
Total	No.	4,338	2,738	4,073	4,796	4,461	1,151	5,670	27,227	
	H%	15.9	10.1	15.0	17.6	16.4	4.1	20.8		
	V%	100.0	100.1	100.0	100.0	100.0	100.1	100.1	100.0	

NOTE: H% indicates the horizontal percentages which sum to 100% across the doctoral fields for each racial/ethnic group. The vertical percentages (V%) sum to 100% for each doctoral field.

[a] Includes 7 persons who checked this category and one other.

[b] Twenty persons checked only this category; 88 checked American Indian and White.

[c] Includes 45 persons who checked this category and White.

[d] Eight persons in this category also checked White.

[e] Twelve persons checked this category and White.

Japanese and others because of the greater identity problem of Japanese scholars (Bennett, et al., 1958). The 22.1% figure for "Orientals" who are U.S. citizens is quite high, especially when their ethnic group represents less than one percent of the total U.S. population. However, the data in Table 1 clearly shows that very few Asian Americans pursue doctoral studies in education and thereby, educational research as a specialty.

Table 3 shows the low percent of Asian Americans in education compared to the significantly higher percentage of Blacks in education. Note the very high percentages for Asian Americans in engineering and the natural sciences (McCarthy and Wolfle, 1975 p. 859).

This author's tabulation of Asian-American surnames among the more than 11,000 members of the American Educational Research Association verifies the lack of Asian-American involvement in educational research as suggested in the above analyses. The AERA Directory for 1974-75 describes the association as "a national professional organization of educators and behavioral scientists who have a vital interest in basic research in education and in the improvement, development, and application of research to educational problems." It would be safe to say that few active educational researchers with responsible positions in the U.S. are not members of AERA. Being generous when in doubt over certain names, such as "Lee" when all eleven were taken as Chinese, I found that 89 surnames

TABLE 2

Profile Data on FY 1973 Doctorate Recipients Reporting a Minority Racial or Ethnic Group Identification

	U.S. Citizens		Non-U.S. Citizens		TOTAL*	
	No.	%	No.	%	No.	%
TOTAL	1,134	100.0	1,726	100.0	2,884	100.0
Black/Negro/Afro-American	581	51.2	144	8.3	735	25.5
American Indian	107	9.4	1	–	108	3.7
Span.-Amer./Mex.-Amer./Chicano	135	11.9	79	4.6	215	7.5
Puerto Rican-American	36	3.2	–	–	37	1.3
Oriental	251	22.1	1,468	85.1	1,731	60.0
Other	24	2.1	34	2.0	58	2.0
Sex						
Male	868	76.5	1,556	90.2	2,443	84.7
Female	266	23.5	170	9.8	441	15.3
Doctoral Field						
Physical Sciences	118	10.4	461	26.7	583	20.2
Engineering	84	7.4	456	26.4	544	18.9
Life Sciences	160	14.1	385	22.3	548	19.0
Social Sciences	158	13.9	179	10.4	340	11.8
Arts & Humanities	143	12.6	95	5.5	242	8.4
Education	443	39.1	113	6.5	561	19.5
Professions	28	2.5	37	2.1	66	2.3
Median Age at Doctorate	35.0 years		31.7 years		32.5 years	
Median Time Lapse from Baccalaureate to Doctorate						
Total Time	11.3 years		8.4 years		9.2 years	
Registered Time	6.2 years		5.6 years		5.8 years	
Postgraduation Plans						
Study appointment	158	13.9	576	33.4	734	25.4
Employment	933	82.3	1,083	62.7	2,030	70.4
R & D	151	16.2	409	37.8	564	27.8
Teaching	453	48.5	422	39.0	880	43.3
Administration	153	16.4	23	2.1	176	8.7
Professional services	54	5.8	60	5.5	115	5.7
Other	31	3.3	48	4.4	80	3.9
Unknown	91	9.8	121	11.2	215	10.6
No report of plans	43	3.8	67	3.9	120	4.2
Postgraduation Location						
U.S.	860	75.8	723	41.9	1,592	55.2
Foreign country	19	1.7	458	26.5	480	16.6
Unknown	255	22.5	545	31.6	812	28.2

*The total includes 24 persons who did not report their citizenship at time of doctorate.

could be Chinese and only 15 were Japanese. Together, the 104 represent less than one percent of the total.

Results of the AERA tabulation do not surprise me. As a member of its advisory board, I note that the Association of Asian-American Psychologists which has existed for several years now, has less than 180 members and some of them are from the majority group. Also, I have been told by an official of the National Institute of Education that the U.S. Office of Education in Washington, D.C. employs less than 10 Asian-American professionals. The federal government has employed an extremely low number of minority doctorates; a report of the National Research Council (1974 a, p. 119), emphasizes that only 785 or 4.2% of the total, 18,531, are nonwhite. Blacks are highly under-represented (.8% compared to 11.1% of the total U.S. population). Relative to the high percentage of doctorates among Asian Americans, their 2.8% representation of the total doctorates in federal work, especially the 55 or .28% in federal administration, leaves much to be desired when HEW guidelines and sanctions to educational institutions on desegregation and affirmative action have been so accusative and severe.

Another indication of poor Asian-American representation is their lack of membership in the American Psychological Association. In APA's

Division of Educational Psychology, which boasts of over 3,000 members, I found only three Japanese surnames and nine Chinese members in the 1973 Biographical Directory. In addition, two Chinese are listed as associate members. Only one Japanese and this author, a Chinese American, appear to have been elected to Fellow status in the Division of Educational Psychology, two out of almost 400, about ½ of one percent.

The 1970 census found 591,000 Japanese Americans, 72% of whom live in Hawaii and California, and 435,000 Chinese Americans, 39% who live in California, 12% in Hawaii, and 27% in the Northeast, primarily in the State of New York (20%). With a total of 1,026,000 Chinese and Japanese and a national population of 203,212,000 in 1970, the figures for Asian-American educational researchers resemble the general populational figure of 0.5%. Compared to the high percentage of Asian-American M.D.'s and D.D.S.'s, the percentage for Asian-American educational researchers seems minuscule indeed. For example, with about 12,000 dentists in the State of California, at least ten percent are Asian-American, half Chinese and half Japanese (recent verbal communication of member, Dental Examination Board). In the case of Chinese Americans who number only 170,131 or eight-tenths of one percent of California's population, the fact that five percent of the State's dentists are Chinese must be considered remarkable, especially when discrimination and language handicaps have had to be overcome. However, California's magnetism for Asian Americans must be strong, since 2.5% of the 1973-74 dental school enrollments in the U.S.A. were "Oriental" (Public Health Service, 1974), a gain of .5% from 1971-72. Only 1.97% of those completing dental degrees in 1972-73 were Asian Americans, a gain of a mere .2% from 1970-72, and compared to 2.8% Black and 93.9% white dental graduates in 1972-73. The figures are about the same, though lower, for enrollments in American School of Medicine.

University faculties in the U.S. reflect the high educational attainment of Asian Americans. California State University, Long Beach, where the author is the Dean of Graduate Studies and Research, has 35 Asian-American professors, which is 3-4% of the full-time faculty. The same percentage would probably be found across all major-sized universities of the country with higher percentages for institutions of higher education which emphasize the natural sciences and engineering. The percentage of Asian-American scholars outside of those fields would probably come closer to the general populational percentage, as I have been the first and only Asian American in several Schools of Education. Also, this writer is only the second Chinese to become a graduate dean in the U.S., there being only one of Japanese ancestry.

In recent years, much concern has been given to the under representation of faculty women. The following excerpt in Table 4 from a report of the American Council on Education (1973) shows that whites predominate in teaching faculty, whether male or female.

One comes to the obvious conclusion that Japanese and Chinese students have not pursued or been attracted to the social sciences or educational research and administration. There are a fair number of Asian

TABLE 3

Minority group members as percentages of recipients of doctorates, by specialty fields.

Field	All U.S. universities, 1973					AAU universities 1972-75, minority total
	American Indian	Asian	Black	Spanish Origin	Total	
Engineering, mathematics and physical science	0.3	11.0	1.0	0.6	12.8	3.8
Life sciences	0.5	7.0	1.9	0.9	10.3	4.6
Psychology	0.6	1.3	1.3	0.9	4.1	4.9
Social sciences	0.5	3.8	1.9	0.6	6.9	5.5
Arts and humanities	0.5	1.2	1.7	1.4	4.8	5.2
Education	0.7	0.8	6.9	0.9	9.3	11.1
Other professions	0.1	2.6	2.2	0.2	5.1	6.7
All fields combined	0.5	4.6	2.7	0.8	8.7	5.8

TABLE 4

College and University Teaching Faculty, 1972-73 by Sex and Racial Background

Racial Background	Men	Women	Total
White/Caucasian	95.1	93.6	94.8
Black	2.4	4.8	2.9
American Indian	0.8	0.9	0.8
Oriental	1.4	1.7	1.5
Mexican-American	0.3	0.2	0.3
Puerto Rican	0.3	0.3	0.3
Other	1.5	1.1	1.4

American teachers, especially in Hawaii and parts of California, but those that enter graduate studies do not seem to undergo training to become educational researchers. Why is that? Here are some inferences for follow-up discussion and study:

1. A deliberate recruitment of Japanese and Chinese into the social sciences and educational research should be, but has not been, attempted by universities, professional societies or governmental agencies. The pervasive but mythical attitude has been that Asian Americans have "made it" educationally and professionally; but as the above shows, progress has been highly selective in fields other than the social sciences/education and mainly in terms of Asian American males.

2. Chinese and Japanese students (and their elders) have favored fields of study and careers which are predominantly in the engineering, health, and natural sciences. Traditional values probably influence such choices, but other factors seem more significant. Areas chosen and unchosen may reflect aptitude test scores, such as the Graduate Records Examination, which show that Asian Americans are superior in mathematics and quantitative reasoning to other groups but weaker in verbal facility (Lesser, *et al.*, 1965). In other words, disciplines that require strength in language ability, such as the humanities and most of the social sciences, have not been conducive to the bilingual concerns of many Asian Americans. However, the scientific bent of Asian Americans would surely be of great applicability in the behavioral sciences, a point that could be stressed in recruitment drives and counseling.

3. Another factor of probable importance has been the past reluctance of Asian American males to enter the "feminine" fields, such as public school teaching, where more Asian American females may be

found and no sex superiority may be asserted for teacher effectiveness (Yee, 1973). Since males have been granted most of the limited resources of families for education and thereby are the ones to pursue doctoral-level studies rather than females, it is not surprising though regrettable and understandable why classroom teaching has not led more Asian Americans to advanced graduate studies in education. However, the relationship between classroom teaching and educational scholarship has become less clear and abstract if it ever did exist (Yee, 1974). Distinctions in male-female roles are changing in general and there is no reason not to believe Asian American attitudes are modifying too to allow greater career goals for the women. Again, recruitment strategies must be developed for both males and females to overcome their different entrance problems.

4. Perceptions of the majority groups toward Asian Americans have been a peculiar blend of naive simplicity, a dualism of favorability/unfavorability, and vicarious stereotypic references (Yee, 1973). American perceptions of what Chinese and Japanese have flip-flopped back and forth over time, mainly because the basic image has been a superficial one and has been perpetuated by inadequate information and prejudice. (Visiting Camp Pendleton's refugee facility not long ago, I was taken again for a new immigrant and told, "Your English is very good." As a fourth-generation Asian America, I look exactly the same to most people as a refugee Vietnamese or China visitor. The joke about looking all the same is so true). Great harm has been perpetrated through sensationalism in newspapers, magazines, pulp thrillers popular in the twenties and thirties, novels, movies, speakers (who usually portrayed the Chinese in the worst light and condition while seeking funds to "serve" them), and Chinatown tours. Current events and diplomatic exigencies concerning China have dictated what shade the image should assume and indicate its shallowness. After Nixon's visit to Peking, what happened to the White House "visions of Maoist golden hordes, eager to rampage across the Asian landscape?"

Viewing nonwhites in sharply contrasting terms, American perceptions tend to restrict the scope of tolerable behavior for all nonwhites. To counter the stereotypic perceptions, Asian Americans have been pressured and have pressured themselves to seek assimilation within a mold that was tailored and inflexible. Thus, to achieve their present level of social acceptance Asian Americans have attempted to be successful, greater-than-life Americans, especially through educational achievement into professions that offer tangible problems to solve, where social interaction and public discourse are not the primary operational modes, and which provide financial security and advancement through objective measures of merit and achievement.

Frankly, I see little change as long as Asian Americans continue to find success in the fields they have sought, such as engineering, natural sciences,

dentistry, and medicine and surely if social science/educational research cannot offer greater social-personal rewards and satisfaction than it has given its workers. Perhaps change will come when Asian Americans find that perceptions of them and of themselves allow for greater acceptance and sense of being American.

In conclusion, Asian Americans have been able to ameliorate bias largely through strong motivation for educational and occupational achievement, cohesive family structure in which harmony and responsibility are maintained, and adaptability to social-environmental conditions. More Asian Americans, however, are beginning to ask themselves who they are and if they must ignore and reject their Asian heritage in order to be considered and perceive themselves as Americans, or if they should foster a unique identity as "Chinatown" Americans (Chin, 1972). The term, "banana," i.e., white inside and yellow outside, has developed in recent years to characterize Asians who are either unfamiliar with or belittle their ethnic roots.

Ethnic consciousness and pride have always been realities that Asian Americans have attempted to balance against conflicting prejudice and life patterns. A significant development today is the overt and dynamic characteristic of ethnic concern among Asian Americans. Most of the younger people involved have great-grandparents who were born in the United States, many of whom never learned to speak English at all and thus did not actually face the same bicultural problems as their children and grandchildren. While the proper road to success and acceptance in the past was passiveness and cultural separatism, more assertive avenues are developing today. Let us hope that more of the younger people, who have not chosen careers yet, will be challenged by the opportunities to improve schools and society through a broader range of career choices. And let us hope that the educational community will marshal strategies, such as graduate research fellowships, to better counsel and attract Asian Americans and other less represented groups.

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Fourth Plenary Session

Wednesday, December 3, 1975, 10:45 a.m.-12:00 noon

THE ROLE OF STATE AGENCIES IN
THE REVIEW OF GRADUATE PROGRAMS

Chairman: Sanford S. Elberg, *University of California, Berkeley*
McAllister H. Hull, Jr., *State University of New York, Buffalo*
T. Edward Hollander, *New York State Education Department*
Donald K. Smith, *University of Wisconsin*

The Role of State Constitutionally Designated Boards and Commissions in the Review of Graduate Degree Programs

McAllister H. Hull, Jr.

The Function of Program Reviews

At SUNY/Buffalo, the review of graduate degree programs began in the Fall of 1969 when the then graduate dean successfully presented his plans for the exercise to the graduate faculty of the university. If you will pardon a small autobiographical excursion, which I justify by way of introducing the experiential credentials I trust will suggest why your program committee has subjected you to my presence here today, I will recall that the meeting in question was my introduction as the new chairman of Physics to the university at large. I introduced several amendments to the proposals to strengthen their non-parochial flavor. In addition to the rationale offered in public debate, there was a private motivation for this; I had made it a condition of my acceptance of the chairmanship that I be allowed to bring in a team of four distinguished outside consultants to report on the academic position of my new department, and I wished my plans to be consistent with those of the university program in order not to have to duplicate the effort at a later date. Thus in February 1970, the first graduate program evaluation in the systematic effort to review all programs at Buffalo took place. One Nobel laureate and three other members of the National Academy of Sciences comprised the team of outside visitors: I doubt any team since has exceeded it in scholarly credentials. In the fall of 1971, when I succeeded the initiator of the systematic review as graduate dean, two more programs had been visited. Since 1970, teams of outside scholars have reviewed and reported on some 65 graduate degree programs at Buffalo. In addition, we have cooperated in seven reviews initiated by the State Education Department of New York State (all repeats of our own) and have begun our five-year cycle again. Including chairing review teams for other institutions, I have participated directly in about 80 reviews

of graduate degree programs. I will let *you* judge from my subsequent remarks whether I have learned anything by the experience—I will only claim evidence for a certain personal durability on the basis of what I have recited. One statistic comes out of these remarks which will have a bearing on later comments: in order to review 65 programs on a five-year cycle, we must average 13 reviews per year (this number includes 10 programs which offer the master's degree as the highest awarded, and 10 doctoral programs closely related to 10 others, hence by restricting our effort, we might work with 45 reviews and have to carry out only 9 per year. We don't plan to do so, however).

Now I shall, as the lawyers say, "connect up" all my remarks with the topic of the panel discussion (The title is so cumbersome it doesn't bear repeating—look at your programs if you don't know where you are). But the thrust of my comments on the topic requires a little further background on the Buffalo program, so I shall ask your indulgence while I describe the process briefly.

By joint effort of the faculty in the program to be reviewed, the graduate dean and his executive committee, a panel of from six to fifteen outside scholars is drawn up. Excluded are any persons who have ever served as Buffalo faculty, and any scholars (as evidenced by the *curricula vitarum* offered for consideration) whose eminence in the field is not clearly established. The size of the panel depends on the structure of the program: we invite a scholar for each subarea covered in our doctoral program, and the approved panel of potential invitees includes three scholars from each of these subareas. Our outside teams, chosen from the panels, have ranged from 2 to 5, averaging 3+. A member of the Buffalo faculty from outside the department being reviewed serves as guide and resource person to the visitors.

The visitors have a charge and program self-study (the latter based on guidelines now used by all SUNY graduate centers) for consideration prior to the visit, which is usually two days in duration. I brief each team before it begins its interviews with faculty and students of the program and with several administrators of the university. The briefing has several purposes: to explain and allow questions about the university structure, to raise questions about the degree program for which we would like special attention paid and especially to emphasize the consultative feature of the exercise. Let me explain that last purpose. I did not need, in the first review conducted, anyone to provide me with an *evaluation* of the department I had just begun to chair. I felt as chairman, and I feel as dean, that it is my responsibility to know enough about our programs to assess their quality fairly accurately. The evaluation portion of the process is for the program faculty, who need an independent, informed overview to see their programs objectively, and for other administrators whose responsibilities may not allow them to achieve the familiarity with the programs I require of myself. This includes those in the central administration of SUNY. But on a scale marked "inadequate, adequate, good, excellent," I expect no surprises from my teams in *evaluating* our programs. A few teams have thought a little

better of a program than we have, but if that is a surprise (and if the opinion is valid), it is a pleasant one.

What is valuable to us, however, apart from what the review report reveals to faculty and administration about the assessment of the program, is the advice the reviewers give: the consultative feature of the process. This is something only disciplinary experts can give and is a principle reason we try to cover all important subdisciplines in a program with a visitor. What are the detailed strengths and weaknesses of our program offerings, our faculty and our students? From the broad perspective of the disciplines, what new directions ought we be considering, what new clientele planning to reach, what new external pressures setting up to respond to? Only the ablest scholars in the discipline, and of these, only those with the broad view can effectively assist us in answering these questions.

The nature of the exercise as we conduct it provides us with considerable flexibility in using the reports we get (each department chairman is asked to prepare a response to the report in concert with his faculty—these responses are grist for our mill as well). In the first place, a recommendation on the program can be made to the President. If a program is found to require new resources for proper development, conditional approval is recommended, and pressure put to provide the resources. This enhances the dean's clout, by the way. Like the Pope, he has no divisions, but by this process he can call on the academic feudal barons for "troops" to fight the unbelievers. New directions, consolidation with another program (leading to a phase out of the one reviewed), splitting into two programs—all may be recommended, in addition to the conventional "approved for five years."

More important for the health of the institution as a whole is the value of these reports and responses in academic planning (whether *ad hoc* or structured). For it is only in an extreme reductionist view of a university that one can believe that it is possible to modify one program without affecting several others and the institution as a whole. I submit that such a reductionist view is wrong on the face of it, and if held simply reveals the limitations of the holder. A university is a system of interrelated subsystems, with intercouplings among subsystems ranging from extremely tight to quite loose. In carrying out radical recommendations based on program review, therefore, the affect on the system (which the reviewers could not, by the nature of the process, undertake) must be taken into careful account. This is best accomplished in a process of academic planning, and at Buffalo this is going on in a select committee of faculty, students and middle administrators I am co-chairing at this time. The graduate program reviews we have obtained (and updated) are an important and necessary input to the planning process. Their value is enhanced by the details of the point of view under which the reviews were conducted and reported. Any significant modification would have reduced their value.

I must not leave what has become a longer description than I intended without commenting on the quality of the reports of the visiting teams. It *should* come as no surprise in any human enterprise that the results will be

of variable quality. Selection of the ablest scholars available as reviewers does not guarantee uniformly wise and useful reviews. In fact our third review was abominable, although the team was as reputable as any we have had. The most brilliant scholars can become sidetracked with inconsequentials, be swayed by one or another singular voice in the program, can, in offering advice, respond to an internal idiosyncratic point of view rather than represent the best in the discipline. I introduced an exit interview with the teams partially to counteract these occasional aberations: not to set the tone of their report, but to get fresh answers to my most important questions about the program and the discipline. In case idiosyncracies later emerge, I should at least have the best sense I could get out of the reviewers by listening and questioning. Of course the principal use of the exit interview is to make as sure as possible that nothing essential is missed before the visitors leave. But even the poorest reports I have so far seen have been useful. In the hands of people knowledgeable about the program under review from long and frequent association, such as our graduate faculty executive committee, planning associates and fellow administrators, most of the chaff can be separated and the grains of wisdom winnowed out.

Let me conclude this part of my comments with a brief summary. The primary function of the review of graduate programs is to inform institutional academic planning with expert independent judgment and consultation. For this function to be served effectively, the reviews must be timely and they must encompass the totality of our programs. Idiosyncratic responses must be handled with care by persons who know the disciplines by having practiced them and the institution by having served it. The evaluative function is secondary, to provide indicators for those who, by reason of being too close or too far from a program, are unable to arrive at an objective or fully informed assessment. In the optimum review process, evaluation is a byproduct of the effort.

Function of State-wide Coordinating Boards

It may seem gratuitous to address the function of coordinating boards in a discussion of role of such boards in the evaluation of graduate programs. However, as a holist rather than a reductionist in educational matters, I find the most natural way to approach the question is from the general to the specific.

I can claim no broad scholarship in the study of state-wide coordinating boards. Generally, I have thought about the topic as my responsibilities have introduced it to me. I find it comforting that my views are reasonably consistent with those of several authors who have written on the subject: in my reading, this means Berdahl[1] and the authors in Berdahl's edited volume[2] in "New Directions for Institutional Research."

A constitutionally established (or continued) board has its functions broadly set by the applicable constitutional articles, and more specifically indicated by the state education law which provides the statutory enablement. These statutes and articles speak of "planning," "coordina-

tion," "articulation," and under planning include review of plans made by individual units or by statewide governing boards for multicampus systems. The authority to approve degree programs is commonly delegated to the coordinating boards, as is the authority to charter institutions which offer degree programs, whether public, private or proprietary. It is significant for my purpose to note that words like "supervision," "management," "administration" do *not* occur in statutes relating to coordinating boards; when they occur, these words appear in statutes setting up statewide governing boards.[3]

The planning function of coordinating boards is usually interpreted from statute, or it may be spelled out, as reviewing plans prepared by units within the board's jurisdiction and integrating them into a statewide plan (with the integration itself subject to review and comment by the units). In its discharge of this responsibility, the board has a range of possible actions: it may simply assemble the plans submitted, it may suggest or even mandate some ground rules and constraints under which institutional plans will be prepared, it may suggest modifications in plans it receives. Apart from seeking compliance with previously agreed on constraints, however, a coordinating board should not attempt to alter institutional plans significantly. If it finds a sufficiently large number of unacceptable elements or a few serious ones, it may be appropriate to ask the offending institution to resubmit, but tampering with selected details of an institutional plan is, to say the least, bound to be counterproductive.

The validity of this view would, for most types of institutions or organizations, be accepted as given. In the case of universities, there are at least two equally erroneous positions that may make it necessary to defend, or at least explain it. The first position is that the goals of universities are the same, are easily stated, and hence anyone can develop or modify the institutional plans against these goals. Holders of this position would not consider modification of details "tampering." It may be rare to hear anyone state as a premise that the goals of all universities are the same, but I infer from the activities of various people that this is their implicit assumption; otherwise, one is hard to put to find a rational basis for the mischief they cause.

An equally erroneous position is that universities have no definable goals, and hence it can't matter how plans are modified. New York's Commissioner of Education asserted this premise[4] (but, I hasten to add, not explicitly draw the conclusion I have suggested) in a speech this summer: ". . . neither the public nor many academicians are confident they know what the purposes of education are," and this is offered as a reason for the difficulties education finds itself in. Unfortunately, this view is not only widely held, but is not always effectively refuted by academics. The purposes of education are plural, and the number increases with time. No given institution will be able to serve them all, and hence in serving them selectively will choose a unique set of goals, thus refuting the first premise of simplistic uniformity. It is perhaps the singularity of the profile of each institution that confuses the outside observer (or unthoughtful insider as well); we use one name, but develop many different institutions by which

we call it. The seven hundred year history of the university leaves a common mark on all institutions deserving the name, however. The intellectual interplay between the theoretical and applied, the esoteric and commonplace, above all the centrality of the examined idea, are some of these indelible marks. The university does not, in fact, lack for defined purposes, nor for the articulation of them. Every master plan, every academic plan, every allocation of resources expresses or implements these purposes for the institution which writes them. It is a strength of American enterprise in many fields that it supports diversity—in fact demands it. Thus it is correct to say that there is no concensus about the purposes of higher education, but this should neither be expected nor fostered. Likewise, lack of concensus should not be confused with absence of purpose.

The defensible picture of the university, I believe, is of an institution with a profile of purposes which makes it unique, but with the kinship of a few important shared goals and traditions which makes it identifiable with others under a common name. It is, to repeat myself, a complex system of interacting subsystems. Planning the activities of the university must recognize the uniqueness of purpose and systemic nature of the institution: requiring on the one hand individual treatment of each institution and on the other, sensitivity to the fact that the whole organism reacts to stimuli applied to a part of it. The development of institutional plans *cannot* be a function of a coordinating board because it is by its nature incapable of meeting these requirements.

The statutes on coordinating boards recognize the wisdom of this conclusion by not directing the boards to *develop* institutional plans, but rather to coordinate such plans and see that they interdigitate in an optimum manner with others in the state. A problem arises as I have argued, if a coordinating board, in developing its mandated broad planning function, should, intentionally or not, engage in activities which constitute individual institutional planning (as opposed to requiring that such plans be developed).

I hesitate to add to the literature on coordinating board functions by proposing my own list. As the New Directions No. 5[5] amply shows, there is no concensus on those functions. Using the kind of reasoning which leads from an observation of lack of concensus about functions to a conclusion of lack of function, I might well therefore assert that coordinating boards have no function and recommend their abolition. Tempting as this is some days, it is neither practical nor in conformity with my most deeply held views. I am a firm believer in educational ecumenism among institutions, while they maintain their individuality and would like to look to a coordinating board to assist us in moving toward such a condition.

I shall, therefore, overcome my hesitation (I am sure you were all confident I would do so) and set down a few important functions I believe a coordinating board should perform. They may be compared or contrasted with lists recorded in New Directions No. 5,[5] especially in the articles of Berdahl,[6] Callan,[7] Ketter.[8]

Among the functions of an ideal coordinating board, I believe, are:

1. To foster program coordination, by identifying and encouraging that pattern of institutional missions which builds on the strengths and aspirations of individual units while increasing the capability of the totality of units to provide with suitable economy the optimum mix of diverse educational opportunities to students of the state.

2. To encourage long-range planning by individual units in a context of statewide priorities and constraints, and to seek a broad coordination of planning in order to develop an articulated plan for the whole state, subject to the operation of function #1.

3. To develop, collect and provide statewide and national information about the educational enterprise in order to assist institutions in their planning efforts.

4. To preserve and if necessary defend the maximum of inst ational autonomy consistent with broad coordination of efforts.

5. To mediate between the educational institutions of the state and its political institutions (governor, legislature, government departments); so to represent the goals and missions of higher education to responsible elements of state government that an optimum balance among state priorities, including those of education, can be developed.

I have thought enough about these functions to recognize that carrying them out requires of the coordinating board a degree of Solomonic wisdom difficult to achieve, political acuity rarely observed, job-like patience inconsistent with the tempo of modern life. Effective discharge of these functions requires the coordianting board deliberately to seize the middle ground, to eschew the simplicities of extreme positions. By implication, they require of the individual institutions a willingness to surrender a degree of autonomy which, in the past decade, most of them only *thought* they have had.

In brief, I believe the constitutional and statutory functions of a coordinating board are, and ought to be, for the broad planning and coordination of planning of higher education. In the discharge of these responsibilities, the board must develop information batteries, demand reports of its constituent institutions, expect them to engage in rational planning, evaluate and integrate the plans, defend the enterprise from the attacks of the Philistines. It must tread a narrow path between extremes that special interests, economic exigencies, impatience, ignorance may urge on it. It must be aware of its potential for destructiveness while it utilizes its potential for wisely designed support. It must refrain from exerting greater pressure on *any* unit in its jurisdiction than it is able to exercise on the *strongest* of them, recognizing that if its policies are wise and rationally presented they will prevail without pressure. It must distinguish between

coordination and control, regulation and prescription, recommendation and requirement, and always choose the first of these dichotomies to characterize its mode of operation. Ulysses' voyage between Scylla and Charibdis was child's play compared to what I ask of the coordinating board.

The Role of Coordinating Boards in the Review of Graduate Degree Programs

I am now prepared to "connect up" my two threads of argument. On the one hand, I have described the function of graduate program reviews as primarily to provide information and consultative advice for the institutional planning process. I have, in fact, urged that there are significant dangers in trusting the reviews as evaluative exercises, and that the removal of the dangers is very unlikely to take place outside the institution itself, not only because of the interest required to do so, but because of the knowledge and perspective required. On the other hand, I have emphasized, as do constitution and statute, the coordinative function of the state coordinating board, and warned against the involvement of such boards in institutional planning. If now I calculate the "overlap integral" for these two "state functions," I find the overlap is zero. Thus I conclude that there is *no* role for coordinating boards, whether constitutionally *or* statutorily established, in the review of graduate programs.

In some sense, I have now met the needs of the topic set for this panel, and could sit down. No doubt many of you wish I would do so. But I should leave some very ragged ends which would offend at least my own aesthetic sensibilities. After all, the State Education Department of New York is engaged in reviewing graduate programs. Its efforts are both hailed and damned. The effort is represented as a first, and so it is—but I remind you that the first attempt at flight in a self-powered heavier-than-air machine failed, and so have all which followed.

The license for the SED program is derived from the report of the Fleming Commission: "Meeting the Needs of Doctoral Education in New York State."[3] Recommendation 3 of that commission reads "The Regents should establish special committees to review the quality and need for doctoral programs in selected disciplinary areas. Only programs meeting standards of present and potential high quality and need should be offered." I believe in the thrust of this recommendation, but not, for reasons given, in the SED carrying it out. I make no apologies for expressing an opinion counter to that offered by the distinguished members of the Commission. My rationale has been developed, and you will judge its soundness. The difference may well arise from the exercise of one set of priorities or emphases over another, and from the circumstances in which the commission was operating. At the time of the report, the projected decline of conventional enrollments was beginning to take place (and this year's reversal not anticipated), there had been a growth of doctoral education in previous decades more rapid than some believe the educational

establishment had had time to consolidate, and, perhaps more significantly only one institution in the state, public or private, was engaging in systematic program review on its own. A sort of "consumer protection" motive has been expressed by the Commissioner of Education of New York. In the speech already referenced, he says ". . . nobody has a right to be as bad as he wants to be."[10] I refrain from stronger language and merely remark that none of the academics in my acquaintance has ever expressed, explicitly or implicitly, any wish to offer bad academic programs, and I doubt I could find any by careful search. We do not always meet our aspirations to offer highest quality, but we do not fail from choice.

The title of the Commissioner's speech may reveal one of the operational problems with the SED's program. He called it "Evaluation (and Termination) of Degree Programs in the context of Statewide Planning."[11] The parenthetical remark has been alleged to be the key internal criterion for judging the success of the SED program by some observers (my own interaction with the staff has been too slight to allow me an independent opinion). It is not an unnatural criterion to use for an *evaluation* program set in a strong economic context. But such a point of view, even for an *institutionally* mounted review, turns the priorities around. The aim ought to be to develop the best integrated educational opportunities for students which demand and resources allow. Program termination is a last resort and to be carried out only after a careful consideration for the total interactive effect on the institution viewed as a system has been undertaken. This consideration cannot be carried out by a statewide coordinating board. It simply does not know enough about the institution. Only by ignoring the university as system could it begin to justify this use of an evaluation report.

I shall not pursue a challenge, point by point, to the SED effort. I mention it for illustrative purposes: it is in place and hence describable. But apart from the premises which I advance, and which logically exclude a state coordinating board from engaging in program review as proposed by the Fleming Commission, I should like to emphasize that my distress is more with the *use* to which the reports are put, and their inadequacies for some purposes, than with who conducts them. In fact, I have cooperated fully with the reviews which have been conducted on *our* campus in order to gain what advice I can from them (although all site visit reports so far have simply confirmed those I obtained earlier) and to improve the process. If the review were general rather than selective, if 10 to 15 different programs per year were reviewed, if the review teams were chosen to match the intellectual profile of our programs, if the consultative aspects of the exercise were first priority rather than the evaluative, and if the process ended with the submission of the site visit reports and a request that my institution prepare an academic plan incorporating the advice in those reports, I should at least reflect on the savings I could make in my operating budget by letting the SED pay for the program rather than the university.

But there is a clear anomaly in a program which is *selective*. If the

consumer needs protection, why only in a dozen subjects? Why should consultation be *discouraged* even if it is not given *first* priority as an aim of the exercise? More serious than any of these defects is the potential harm of a process which allows an idiosyncratic view to inform a recommendation without suitable checks and balances operating, as is still the case despite some improvement during the past year. Results of a program review will on occasion require a management decision. It is reported in the *Chronicle of Higher Education*[12] that some administrators welcome these decisions being made outside, but I assert they thereby shirk a responsibility only they can best discharge: a coordinating board has no role in institutional management or administration. The point is, for me, inescapable: a statewide coordinating board is simply the wrong vehicle for achieving the legitimate goals of program review. By assuming a responsibility which should be exercised by the individual institution, the coordinating board takes on the aspects of a Ministry of Education, which so far is a pattern alien to American education.

In past times, when we could expect increasing resources and could thus think in terms of diluting weakness in place by added strength, our use, for planning, of our own knowledge of our programs took us in one direction. There is an attitudinal inertia which makes it difficult for us to forget this expansionist point of view. But we recognize the change of times, some of us more slowly than others, and now our posture must change and consideration needs be given to other modes of response when (a) a weakness of massive dimensions is recognized (quite apart from how recognition takes place), (b) there is no capacity or no priority for improvement. It will, however, be rare that the situation is so clear that all other considerations pale and instant reaction is called for. There may be a time required to consider many options and to do many things. One major goal is to reduce the shock any change may put on the system: that is, to the university and all its internal constituencies. Thus I believe that although I should have liked us to act for higher purposes, the *times* will dictate that appropriate actions resulting from priority determinations will increasingly be taken responsibly by the individual institutions and/or systems of institutions without a prod from a state coordinating board, ill equipped and without a mandate to become involved in institutional management. Some institutions, slow to sense the tenor of the times, may have to be awakened to their responsibilities for self-assessment and improvement. I believe, in brief, that if the surgeon is asleep when the patient needs an appendectomy, the proper course for the patient's concerned parent is to wake the surgeon, not start the operation himself.

Events are moving rapidly, and it is expectable that in a swiftly changing situation some traditional arrangements will prove inadequate and *ad hoc* replacements inappropriate. In face of this, I believe a cooperative effort among institutions, governing boards for systems, and coordinating boards for states is needed to work out newly appropriate modes of interaction and areas of responsibility. Our purposes are common, however, we may dispute the means by which we severally serve them; we all wish to provide the best and broadest educational opportunities to our students at

the lowest cost to the citizens we serve that our wisdom and skill can provide. There is much work for all of us in an era of changing needs and declining resources. There is no point in trying to do each other's jobs.

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New York State's Approach To Coordination of Quality Review of Graduate Education

T. Edward Hollander

The role of the state agencies in monitoring the quality of graduate education is of importance to higher education. It concerns the relationship of government to higher education at its most sensitive junction point.

You have every right to be concerned about the growing involvement of government in the academic affairs of higher institutions. This involvement could pose a serious threat to the traditional insulation of academic affairs from the political process. With increased responsibility for financing, government has become increasingly active in this area, imposing not only

burdensome bureaucratic demands for data whose end use is often not clear, but also entering increasingly into the academic decision-making process without full understanding of the implications of its intervention.

The increased share of the tax dollar going in support of higher education, concern about potential or imagined over-capacity of institutions in relation to student demand, state fiscal problems, and a widely held view of inadequate statewide coordination of planning, all contribute to legislative demands that state agencies increasingly coordinate program planning. The issues are all too real and state agency intervention, whether by a governing or coordinating board, is likely to grow rather than diminish.

State agency involvement can be a constructive or destructive force, depending upon how the agency perceives its role and the extent to which its actions are influenced by the leadership in the academic community. If I have one message for you today, it is this: The deans responsible for graduate education in a state can assure that the agency's role is a constructive one if they take the initiative in establishing and monitoring the evaluation process.

This has occurred in New York State, and the Regents role has been directly responsive to the leadership in the state's graduate community.

New York is also fortunate in having a Board of Regents with coordinating board responsibilities that is constitutionally independent of any other branch of government. Let me explain.

The New York State Board of Regents

New York has a statewide, unified system of education first incorporated by an act of the Legislature in 1784 as The University of the State of New York. The University of the State of New York is composed of all the public and independent colleges and universities in the state, as well as the public and nonpublic schools, museums, libraries, historical societies, and other educational agencies and institutions. It has the protective autonomy of constitutional status; it is nonpolitical; and it is a fourth branch of government in New York wholly concerned with and committed to education. The scope of functions and authority of The University of the State of New York span everything from prekindergarten to post-doctoral and adult education. The governing authority of The University of the State of New York is the Board of Regents, 15 lay men and women elected by the State Legislature for seven-year terms. Their staff is the State Education Department which is headed by the Commissioner of Education, who also serves as President of The University of the State of New York. He is appointed by the Regents and serves at their pleasure.

There are many advantages to this pattern. For one thing, it lodges in one nonpolitical Board, the Regents, the authority to charter, plan, coordinate, supervise, and evaluate all the educational institutions of the state. The Regents do not have operating responsibilities for higher institutions. They do hold accountable the governing boards of the 245 higher institutions in the state.

New York State Education Law empowers the Regents and the Commissioner of Education to establish standards of quality to be met by all programs of study at all 245 of our public and independent colleges and universities. By quality, I mean the ability of an institution to accomplish the educational outcomes it promises a student when it admits him. I must say in all candor that we still have a long way to go in this important and sensitive area. The task is difficult, if for no other reason than sheer size. At the doctoral level alone, the Commissioner of Education has registered—that's our term for "accredited"—nearly 1,400 programs offered by 42 institutions.

Obviously, we cannot examine every program in depth. We rely heavily upon self-assessment, outside accreditation reviews, and the appraisal of overall quality of the faculty. The resources of the Department in this respect are concentrated on coordinating the efforts of outside consultants, though most of our own staff are academically qualified.

Quality of Higher Education is also a State Responsibility

We are also mindful, of course, that there must always be what our Commissioner refers to as "honorable spaces" in the togetherness of government and academic decision-makers. We do not intrude where we do not belong. Academic freedom is a precious thing to us. Someone once remarked that "no one should meddle with the universities who does not know them and love them well." After almost 200 years of experience, I think we know them well and we love them well. But we are also committed to carrying out our obligation to provide students with the best possible education and to protect them from shoddy academic programs.

New York State now spends more than one billion dollars a year to support higher education, both public and independent. That amounts to roughly one-third of the total annual expenditure for postsecondary education by all institutions in New York. This level of spending results in insistence by our Governor and legislative leaders that what we do be done at the highest level of quality possible. They look to the Regents for this assistance. In return, they limit their own intervention. I would argue that the process I will describe has helped maintain confidence in our graduate enterprise.

Our higher institutions can expect to be held increasingly accountable for whatever public support is provided in the future. This means that we will have to evaluate all programs more regularly, explain and interpret the results of evaluation more candidly, be personally and organizationally more responsible for the weaknesses as well as the strengths revealed, and be more demonstrably efficient in the use of resources.

Review of Master's Degree Programs

Our serious concern about the quality of graduate education began in

the late 1960's. The Regents authorized a thorough review of master's degree programs as a result of indications toward the end of the 1960's that some of these programs had serious shortcomings. As a result, the Commissioner undertook, in addition to his regular responsibilities in this area, an intensive examination of master's degree programs at both public and independent institutions during the 1969-70 academic year. The review was actually conducted by outside consultants drawn from the academic community. This study clearly showed an unwarranted proliferation of the programs, combined with disturbing examples of loose administration, indiscriminate admission of students who had never been properly screened, and inadequately prepared faculty members teaching the courses. The Commissioner did not take unilateral action. Instead, he convened regional meetings with presidents, deans, and other representatives of institutions to review the findings and to determine appropriate steps that he and they together could take to improve the situation.

Our subsequent review of master's degree programs has consisted of evaluations done mostly by 65 outside consultants during the last two years. Findings are shared with the institutions on an individual basis as a way of guiding them in overcoming weaknesses or, when necessary, in eliminating poor programs. I am pleased to say that most institutions took action on their own initiative to terminate or consolidate master's programs. Moreover, other encouraging results have showed up in our comparisons of findings for 1969-70 with those that came later. For example, there has been a considerable upgrading of faculty qualifications in programs that were originally found to be most deficient. Admissions standards have been tightened, and there is less mixing of undergraduate and graduate class enrollments. Students are receiving better counseling. Closer scrutiny is being given to proposed new programs and to existing programs with low enrollments. Administrators and faculty are now assuming, independently of the Department, greater responsibility for internal reviews of their programs. Our future role in this area is likely to concentrate on the monitoring of the process rather than in the form of direct involvement.

Review of Doctoral Programs

The foregoing considerations apply as well to the review of doctoral programs, a far more sensitive area. As you know, our project to evaluate doctoral programs has been reported at length in such publications as the *New York Times*, and the *Chronicle of Higher Education*. Dr. Dorothy Harrison is responsible for this program in New York State.

The traditional academic demand for doctoral degree recipients is declining rapidly.[1] Professional employment opportunities are already scarce compared with the 1960's and we have been warned that every recognized profession will be oversupplied by 1977.

While the demand for Ph.D.'s declines, the cost of dotoral education is consuming an increasingly disproportionate share of institutional revenues.

In New York State, doctoral enrollments account for 11 percent of the total enrollment in higher education, but doctoral education exceeds 30 percent of the total costs. This was reflected in a 1972 figure—and I'm sure it's far higher now—showing that the average cost of a Ph.D. degree was $52,000. You can readily see how doctoral programs contribute to the financial stresses our universities are experiencing.

It is for these reasons that, in 1971, a group of graduate deans in the state asked the Commissioner of Education to impose a one-year moratorium—later extended to two years—on the introduction of new Ph.D. programs. In early 1972, also at the request of our own deans, the Regents appointed a Commission on Doctoral Education, chaired by Robben Fleming, President of the University of Michigan, to take a hard look at the state of doctoral studies and to recommend specific actions that should be implemented. The Commission issued its report and recommendations in 1973, and the Regents accepted fully their findings and published a position paper in August of that year in which they established policies aimed at assuring a strong State commitment to programs of the highest quality. The Regents outlined Education Department plans to evaluate all doctoral programs on a discipline-by-discipline basis in that paper. These reviews are intended to identify programs that are of demonstrable high quality and meet clear needs and therefore should be sustained. Conversely, those that do not fully meet the highest standards are subject to another review three years later, giving the institutions an opportunity to shore up such programs. Those found to be submarginal or inadequate are terminated.

After consulting the Commissioner's Advisory Council on Graduate Education, made up of deans of our graduate schools, we chose the disciplines of chemistry and history for the initial reviews. The evaluations in chemistry and history have now been completed and so have reviews of doctoral programs in English, physics, and astronomy. We are concentrating on modern foreign languages this year, and hope to cover all major traditional academic disciplines by 1983.

In preparing for these discipline-by-discipline reviews, we sought a procedure that not only would facilitiate some tough decision-making, but would also permit flexibility and involve the best qualified people in each academic area. In addition, we recognized the need for a process that would guarantee equity, due process, and the confidentiality to which every institution under review is fully entitled, except that New York State's new Freedom of Information Law compels us to release a final decretal decision.

We have been particularly fortunate in engaging some of the most distinguished and experienced academicians in the disciplines being evaluated. All academic consultants are drawn from outside New York as one way of encouraging rigorous objectivity. Names of potential visitors are solicited from, among others, the Council of Graduate Schools, the disciplinary associations, and the institutions affected. The total panel of visitors is then reviewed by each of the the institutions to be evaluated, to eliminate any persons to whom an institution objects. Site visitors have

come from such institutions as Virginia, Harvard, Princeton, MIT, Penn State, Michigan State, Wisconsin, and the University of Massachusetts, to name just some. At all stages of the review process, we have involved both out-of-state visitors and representatives of the institutions under review. A Doctoral Council, representing the principal graduate institutions in New York, has been closely involved from the outset in defining criteria, establishing the process and evaluating recommendations on every program reviewed. In every case the Commissioner has followed the recommendations of the Doctoral Council and the Rating Committees in each area. The Commissioner has never substituted his judgment for the academic judgment of the peer review groups. The process has been so established that it is extremely difficult for him to do so.

What has been the outcome? In the fields for which evaluation is now complete, institutions have voluntarily closed twelve programs that did not meet standards of high quality. Some thirteen programs will be revisited after a three-year period to determine whether they have remedied weaknesses identified in the earlier reviews. Steps have already been taken by these institutions to strengthen their programs.

More important, all of the doctoral institutions in the state have begun their own self-evaluations for purposes of pruning or strengthening their own weak programs and consolidating offerings where appropriate. The doctoral evaluation project has set in motion institutional processes that will result in an enhancement in quality of the statewide system of doctoral education.

Most important of all, decisions about the future of doctoral education have been kept in the hands of educators who have conducted the process fairly, objectively, with an understanding of the importance of quality from the student's point of view, and with sensitivity to the nature of the academic process.

The credibility and importance of doctoral education has been enhanced among State budget officers and legislators. Since the process was begun, we have not heard any complaints from the executive or legislative branches about the high cost of doctoral education, nor have they questioned the legitimacy of public support for this activity. There have been jurisdictional questions raised by one public institution which had been asked to close a program. I am hopeful this issue can be sensibly resolved.

Let me close by making several specific points.

1. Increased government financing carries with it the possibility of increased intervention. In a period of fiscal constraint and when higher education claims so high a proportion of the tax dollar, the state will intervene; how it does so depends upon who takes the initiative.

2. In New York, it was the community of graduate deans that took the initiative in establishing the process and monitoring its objectivity. As a result, they were assured as to its fairness and objectivity.

3. We are fortunate in New York State to have a State agency both with statutory authority and responsibility for maintaining standards of quality independent of fiscal considerations. The agency is also insulated from the political process. Hence the State agency could respond sensibly and purposefully. The Regents buffered the process from politicization.

4. As a result, the credibility of our doctoral work has been enhanced and State support for graduate education has not diminished.

5. The process has as its paramount objective the enhancement of quality.

6. The process once started is continued by the institutions themselves, and ultimately the State's role shifts from direct participation to a monitoring of institutional self-assessment processes. We have not yet reached this last stage fully, but we are close to it for most institutions in the State.

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Graduate Degree Program Audit and Review in Wisconsin, 1973-75

Donald K. Smith

In inviting me to speak at this conference, Dean Elberg suggested that it might be useful for graduate deans to hear about the ways in which certain of the statewide governing or coordinating boards have become involved in reviewing graduate degree programs. This seemed to me a reasonable thought: to be forewarned concerning that which may be coming down the road could be useful. Accordingly I am pleased to be here to provide a report on the phenomenon as it has developed in the state of Wisconsin, even though I now recognize the risk that I will be viewed by many graduate deans not as one involved in efforts to cope with present and future shock, but as one implicated in a dubious enterprise.

So much for my belated apprehensions. Let me turn immediately to the task at hand by indicating my intention to concentrate on the development since 1973 of processes of audit and review for *existing* graduate degree

programs in the University of Wisconsin System. These processes are separable from the review of proposals for new graduate programs conducted in the System by the central administration and the Board of Regents. Review of new program proposals came first and is a relatively straightforward and explicable process. Audit and review of existing programs, for purposes of possible excision, alteration, or recertification is the later, more complex, and more troublesome process, and therefore the one you may find most interesting. In order to describe the process as it has emerged in Wisconsin, let me first indicate the political and legislative context within which it developed; second, describe what has happened and is still happening; and finally, state some of the assumptions and perplexities affecting our present and future course.

One of the reviewers of William Gaddis's recent novel, *J.R.*, observes an assumption underlying its dramatic action. The assumption is this: that life is what happens to you while you are making other plans. This may be an apt description of what has happened in the last three years to the public universities of Wisconsin. In 1972, they were placed into a single merged System, under a single governing Board, at a time most of them were making other plans. Merger, and its attendant assumptions, purposes, and legislative charter made the audit and review of existing graduate programs all but inevitable.

The merged System included 13 universities, two of which, the Universities at Madison and Milwaukee, carried earlier entitlements to graduate work at the Ph.D. level; 9 of which had been members of the former Wisconsin State Universities System and carried program entitlements at the master's and specialist levels; and two of which were newly developed undergraduate institutions in the former University of Wisconsin System whose plans included the assumption that they would offer work at least at the master's level.

The assumptions, stated and unstated, underlying merger included the following: that public higher education in Wisconsin was overbuilt and in need of pruning to adjust to emerging fiscal realities; that a strong, single governing Board should be established and given the task of planning and coordinating the whole of public higher education in Wisconsin; that in performing this task, this single Board of Regents should look particularly at the well-known academic sins of program duplication and waste; that, in summary, merger should give Wisconsin a leaner, more economical, more efficient, and more productive System of public higher education than that which had emerged from almost three decades of constant growth and soaring ambition.

Merger was the idea of Wisconsin's Governor. He proposed it, argued its merits, pushed it through the legislature against the opposition of the Boards of the two former public University Systems and has had much to do with the fiscal and public policy boundary conditions within which the merged System has operated. Items which were of greatest relevance to program audit and review can be listed.

First, the 1973-75 biennial budget for the merged System included an annual 3½% cut in the base operating budget of the System which was

identified as a "productivity saving." In effect this presented the System with a reduction in excess of $20 million in its base budget resources over the biennium. This reduction served to underline the proposition that the era of fiscal growth for higher education in Wisconsin was indeed at an end.

Second, the budget suspended enrollment funding for growth in graduate programs in the 9 universities of the former WSU System. The reasons for this action were somewhat ambiguous, but it did seem clear that the opportunity to have this constraint removed would be improved if the System could demonstrate to state government that the Regents, Central Administration, and the campuses were indeed seriously addressing concerns about program duplication and inefficiency.

Third, the merger statute, although not finally enacted by the legislature until May, 1974, included among the responsibilities of the Board of Regents the following:

> "... The board, after public hearing at each institution, shall establish for each institution a mission statement delineating specific program responsibilities and types of degrees to be granted" ... and
>
> "... The Board shall determine the educational programs to be offered in the system and may discontinue educational programs as it deems necessary."

This legislation included statements of board authority confirming assumptions under which the board was already acting. It also, and with considerable skill, included specifications of the responsibilities of faculty, chancellors, and students, and a generalized commitment to the maintenance not only of shared governance, but also of the widest degree of institutional autonomy possible "within the controlling limits of system-wide policies and priorities established by the board." These latter aspects of the merger statute provided a frame of reference which some measure, I believe, supported the manner in which the work of program audit and review was undertaken in Wisconsin.

In summary, fiscal austerity came early to public higher education in Wisconsin, antedating the national economic recession. The latter phenomenon, however, has assured continuation and intensification of the funding pinch. One could, I suppose, give state government in Wisconsin credit for prescience in instituting austerity as a major priority before recession made it a national issue. In candor, however, both the System's central administration and its Board would have been somewhat happier to undertake the work of statewide planning and coordination, including the work of program audit and review under slightly more relaxed circumstances.

I have taken some time to describe the political context for program audit and review in Wisconsin since I believe one cannot understand the somewhat spirited and abrupt way in which we started graduate program

audit and review without knowing of this context. Let me move now to a description of what we have done since 1973.

After the passage of the biennial budget in July, 1973, it seemed clear both to the Board of Regents and the central administration that the work of audit and review of existing programs should begin at once, and that it should begin with master's and specialist programs. The decision to begin was consistent with the general agenda of the central administration and the Regents which included the goal of a "zero base" reexamination of all System programs and operations. The general litany of justification is familiar to all of you: "We can no longer do the new things that need doing by seeking and getting additional funds. We must find ways of accomplishing these high priority tasks by stopping services that are of lesser priority."

Two other factors influenced the decision to start with master's and specialist programs. Legislative action in suspending enrollment funding for such programs at the former WSU institutions gave some fiscal urgency to the work. Unless progress in audit and review could be made by February of 1974, the opportunity of getting such funding released in the second year of the biennium at the interim session of the legislature would be lost. Moreover, and fortuitously, the area in question seemed likely to include some programs of dubious vitality susceptible to reasonably expeditious analysis.

The audit and review of master's and specialist programs was thus begun in the late summer of 1973 by the Office of Academic Affairs in Central Administration as an expression of Regental policy. The basic process envisioned three steps. First, Central Administration would undertake a somewhat mindless audit of all programs using data indicators which might sort out unproductive, inactive, or unusually costly programs from those which seemed to have reasonable or conspicuous vitality. The indicators used were status studies, or where available, three-year histories of degree enrollments, credit hours taught, degrees awarded, and costs. On the basis of such an analysis, central would suggest phase out, probationary status, or continuation as preliminary possibilities drawn from the audit. Second, the campuses would review the results of the audit, and either confirm these as recommendations of the campus, or provide a different recommendation based on the campus review, including consideration of the qualitative and interactive dimensions of the programs affected. Third, a process of discussion between the campus and central would result in recommendations to the Regents either jointly supported by central and the campus affected, or, in the absence of agreement, the presentation of alternative recommendation for Regental decision.

These steps were generally followed, except that it became clear midway through the audit that the process would not address effectively some questions concerning program duplication. In selected instances, similar programs were found to exist at two, three, or four universities geographically proximate to one another, and yet with each revealing reasonable vitality. Accordingly, the central audit report was amended to include designation of a number of regionally replicated programs, otherwise designated for continuation, for regional review. This review was

to be aimed at exploring further possibilities for consolidating the distributing programs in ways which would permit better concentration of resources at particular locations.

If you suspect that the process followed aroused faculty apprehensions, rancor, and cries of dismay, you are right. These lessened, however, as understanding grew concerning the distinction between an audit by central, and the premise that an effective review must necessarily be undertaken by the affected campus and its faculty and must treat much broader considerations, including those of program quality, than those possible to an audit. Apprehensions also lessened as emphasis was given both in representations to and by the Regents and to the campuses that the major intention of the Regents and Central Administration was that the work of program audit and review should largely be delegated to the campuses and their governance agencies. The Systemwide audit and review of master's and specialist programs was to be treated as a pilot work, undertaken in haste for reasons urgent to the welfare of the System as a whole, but aimed fundamentally at establishing the capability and requisite processes at each of the Institutions of the System. The end in view was that audit and review of existing programs would become a continuing function of all campuses and all faculties rather than an exercise in crisis management.

In point of fact, the initial process worked out rather amiably. By January of 1974 recommendations for the phase out of some 50 master's and specialist programs, joined in by the campuses and Central Administration, were brought to the Regents. An additional 60 programs were marked for reexamination by the campuses by 1976, and an additional 78 programs were marked for System or regional review by July of this year.

With the completion of Phase I of the master's and specialist audit and review in January, 1974, Central Administration, in consultation with the chancellors, vice chancellors, and faculty leaders, moved in the summer and fall of 1974 to set the policy framework for establishing processes of continuing audit and review not only of graduate programs, including doctoral programs, but also of undergraduate programs. By June of this year all campuses were able to report to the Regents that they had established campus machinery to accomplish the following tasks: (1) identify annually on the basis of stipulated audit criteria, campus processes, or campus schedules, a limited set of programs to be given intensive review; (2) conduct such reviews in ways leading to recommendations to the chancellor of the campus as to the actions, if any, which should be taken concerning the programs (recommendations could range from phaseout, to probationary status, to consolidation, to reorganization, or to reinforcement through additional resources); and (3) report annually to the Regents on the actions taken as a result of this program of continuous audit and review.

With two exceptions, the work of audit and review of existing academic programs, at all levels, is now delegated to the campuses and campus governance agencies. The two exceptions are these. First, the Regents have given strong support to the development of regional consortia of universities for purposes of sharing resources. At least one consortium now

developed engages in formal interinstitutional review of both new program proposals, and existing programs heavily replicated within the region. The recommendations of the consortium do not have the force of law for the campuses involved, or in the case of new programs for the President and the Regents, but they have proved to be remarkably persuasive. Second, Regents' policy includes provision for lateral audit by Central Administration of replicated program areas in the System pursuant to specified concerns which cannot be treated effectively by the campuses individually, or by an existing consortium. An example of such a lateral audit and review is now in process. The review will treat the 11 medical technology programs in the System. The problem stimulating the lateral audit was the development of a statewide program capacity which was bringing vastly larger numbers of students into the program than could be accommodated for clinical training by the hospitals of the state or conceivably absorbed by the employment market. At least these are the seeming facts needing Systemwide study possibly leading to recommendations for program attenuations.

Let me turn quickly to some of our major assumptions and perplexities. I shall present these without elaboration since I believe they include matters you will want to discuss later this morning.

First, we assume that the general work of audit and review of existing academic programs should be an ongoing responsibility undertaken by the governance agencies of every university.

Second, we assume that the faculties of Wisconsin's public universities have generally accepted the legitimacy, importance, and merit of this task; that they have been able to participate effectively in so-called "hard" decisions concerning their own programs and that they will continue to develop this capacity.

Third, we assume that there are some problems of statewide program audit and review which must be undertaken through the initiative of central administration and the Regents. Such tasks should be infrequent, and should involve the faculties of affected institutions, but they will be needed.

Fourth, we are perplexed by the question of whether or not external consultants or visiting experts should be used in approaching particularly sensitive problems of review. In general we have emphasized development of internal capability for rigorous decision making. However, one of our institutions has decided that it will use external consultants in review of its doctoral programs, and we have turned to external expertise in one recent lateral audit and review undertaken by central administration.

Finally, we are perplexed by the problem of explaining to state government that the primary purpose of program audit and review is not that of freeing up large dollar sums in current budgets, but rather that of maintaining program vitality, protecting program quality, and curbing future costs directed toward low priority enterprise. There is little immediate dollar value in eliminating low enrollment, unproductive, or low quality programs. There may be much long-range value in focusing campus energy on higher priority enterprises, including the priority of doing only those things we can do well.

Report on the Council of Graduate Schools—Graduate Record Examinations Board 1975-76 Survey of Graduate Enrollment*

Part I

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Introduction

As a result of the difficulty of obtaining accurate information on graduate enrollments, and particularly trends in enrollments, the GRE Board and the Council of Graduate Schools began four years ago to conduct an annual series of surveys of enrollment of the membership of the Council of Graduate Schools in the United States. The Council membership consists of some 334 graduate institutions who grant either the master's or doctorate as the highest degree. The members of the Council grant 99% of the earned doctorates and 85% of the master's degrees awarded.

This year's survey, like previous years', was divided into two sections, the first of which was distributed in the early fall of 1975 with a request that results be returned no later than November 1, 1975. This report provides the results of the first questionnaire mailing; it is anticipated that the results of the second questionnaire mailing will be available early in the spring of 1976.

Sample Description

Survey questionnaires were sent to 334 graduate schools who are members of CGS. A total of 296 questionnaires were returned for an 89% response rate, an indication of the continued high interest among graduate schools in the topic of the survey. Since the primary purpose of the questionnaire was to develop comparative data between 1974 and 1975, responses to questions were included in the analysis only when data were supplied for both years. Thus, the effective response rate per question will vary from a high of 89% for the overall sample to a low of 73% for the question concerning applications. While this variability is probably to be expected and is smaller than that found in previous years due to an increased effort to have —0— entered where appropriate, it does make comparisons across some questions of restricted value.

*For reference purposes, this report is also issued as "CGS Communicator Special Report #5, December, 1975."

Comparison of Usable Sample and Base Population

	CGS Institutions		Useable Survey Sample		% (sample of each population subgroup)
	Number	Percent	Number	Percent	
Public	220	66%	199	67%	90%
Private	114	34%	97	33%	85%
Public—Master's Highest Degree	66	20%	57	19%	86%
Private—Master's Highest Degree	26	8%	23	8%	88%
Public—Ph.D. Highest Degree	154	46%	142	48%	92%
Private—Ph.D. Highest Degree	88	26%	74	25%	84%
Master's Highest Degree	92	28%	80	27%	87%
Ph.D. Highest Degree	242	72%	216	73%	89%

Continued care should be exercised in attempting to compare results of this year's survey with published results of last year's survey insofar as 1974 data reported in the current survey may differ from 1974 data reported last year for several reasons. First, although the questionnaires and definitions remain unchanged from last year's survey, the actual number of institutions responding increased by 4.6% and the specific institutions responding in 1975 were not always identical to those responding in 1974. Second, many institutions noted that the data for 1974 which they were able to provide for this year's survey were different from, and better than, the 1974 data which they provided last year. Finally, the increase in CGS membership (18 institutions or 5.7%) was greater than the increase in number of respondents (13 institutions or 4.6%), leading to a lower response rate this year (89%) than last year (90%).

Despite these limitations, the overall obtained sample (i.e., those submitting usable questionnaires on time) is extremely representative of the total CGS population, although weighted slightly toward Public Ph.D. institutions. Comparisons of number and percentages of several ways of describing the available population and sample are shown above; it should be noted that "Master's Highest Degree" refers, throughout this report, only to those institutions for which the master's degree is, in fact, the highest degree awarded. Data for these institutions do not reflect master's degrees offered by institutions which also offer the doctorate.

The percentages shown in the table on page 2—and in Tables 1 through 8 at the end of this report—show response rate based on the number of institutions in CGS; e.g., the 296 institutions providing responses to this survey represent 89% of the CGS institutions and an 89% response rate is

noted. Since the sample of institutions with usable data becomes less complete as the complexity of the questions or the difficulty of obtaining the data increases, the number of institutions providing usable data and the response rate that number represents are given for each question in the data presentation.

In addition, several users of this report have expressed an interest in the proportion of total graduate school enrollment which the responding institutions represent and these figures, while approximate, are provided in a footnote to each table. Based upon the results of last year's survey, combined with additional data from the *Graduate Programs and Admissions Manual*, one may estimate the 1974 total graduate school enrollment for CGS members at approximately 770,000. Using this estimate, it is then possible to report that the 296 institutions which responded to this year's survey represent an 89% response rate (based on percentage of CGS institutions) and also accounted for approximately 89% of the 1974 total graduate enrollment at CGS institutions. This latter figure is created by taking the 1974 total enrollment reported this year (684,129) and dividing by 770,000. For subsequent questions, a similar computation has been carried out, removing from the 684,129 the reported total graduate enrollment of each institution which failed to provide a usable response to the question.

Results

The results of the survey are displayed in Tables 1 through 8. The tables present the number of respondents with usable data to each question (i.e., data for both years and for all parts of the question), the percentage that number represents of the total group or of the subgroup, e.g., public, the total number of students reported each year and the percentage change from 1974 to 1975. All data are presented by public, private, and total. In addition, Tables 1 through 4 also present data for institutions classified by means of the Educational Directory, Part 3, in terms of the highest degree awarded. These categories are: Public—Master's Highest; Private—Master's Highest; Public—Doctorate Highest; and, Private—Doctorate Highest. This additional breakdown was not applied to later questions because it was not felt to be particularly important or because the differences were too small to affect the overall results.

Finally, all data were summarized by size of the responding graduate school, although these summaries do not appear in the tables presented. As with last year's report, this report bases size categories on quartile ranges by institutional type drawn from Part I of a prior survey. Thus, each size category—ranging from "1" for the smallest institutions to "4" for the largest institutions—will contain approximately 25% of all institutions of one type, facilitating meaningful comparisons of institutions by size. Size categories used in this report, by institutional type, are shown on page 4; results based on these size categories are noted in the following discussion, where appropriate.

Total Graduate School Enrollment for Size Categories, by Institutional Type

(Each size category contains approximately 25% of all institutions of that institutional type)

	(Smallest) Category 1	Category 2	Category 3	(Largest) Category 4
Public—Master's Highest Degree	0-750	751-1300	1301-2700	over 2700
Private—Master's Highest Degree	0-200	201-500	501-750	over 750
Public—Ph.D. Highest Degree	0-1200	1201-2300	2301-4100	over 4100
Private—Ph.D. Highest Degree	0-800	801-1400	1401-2300	over 2300

Discussion

A review of Table 1 shows an overall increase in total graduate school enrollment of 5.5% for the institutions reporting. However, when more than the total figures are reviewed, it becomes apparent that the increase is significantly higher (9.9%) at private master's institutions and lower (2.6%) at private Ph.D. institutions. Within private master's institutions, the largest increases occurred in Category 1 (smallest) and Category 4 (largest) institutions, with increases of 29.9% and 10.6% respectively. In both public master's institutions and public Ph.D. institutions, larger enrollment increases were noted in the smaller (Category 1 and 2) institutions than in the larger institutions. No category of institution, by size or type, showed a decline in total enrollment between 1974 and 1975.

First-time enrollments (Table 2) show a similar pattern, with an overall increase of 3.5%, but with the greatest increases (8.5%) at private master's institutions and the smallest increases (0.4%) at private Ph.D. institutions. Once again, the largest increases within private master's institutions occurred in Category 1 and Category 4 institutions, with increases of 5.7% and 13.4% respectively. Public master's institutions showed an overall increase of 3.0%, with increases at the smaller institutions (Category 1 increase: 8.3%; Category 2 increase: 21.1%) and decreases at the larger institutions (Category 3 decrease: 1.3%; Category 4 decrease: 4.3%). Private Ph.D. institutions experienced an overall decrease in first-time enrollment of 0.4%, and showed decreases in size Categories 1 (decrease: 5.7%), 2 (decrease: 0.4%), and 4 (decrease: 1.2%). Finally, public Ph.D. institutions experienced an overall increase in first-time enrollments of 4.7% with increases in all size categories.

Table 3 shows responses to a question added last year concerning the

total number of applications received for graduate study. As can be seen, the total number of applications increased in all categories of institution; perhaps most surprising, the largest increase (7.1%) occurred at private Ph.D. institutions, which had experienced the smallest increase in total enrollment and the only decrease in first-time enrollment. Within private Ph.D. institutions, increases in applications occurred in Category 1 (0.3%), Category 3 (18.0%), and Category 4 (3.6%) institutions, with a slight (0.3%) decrease in Category 2 institutions. Decreases also occurred in the smallest private master's institutions and in the largest public master's institutions; all size categories of public Ph.D. institutions experienced increases in applications.

Table 4 shows the number of graduate assistants (service required) for 1974 and 1975, and shows that the number of graduate assistants increased in all categories of institution and at a slightly faster rate at public institutions than at private institutions. Increases at public master's institutions and at public Ph.D. institutions were consistent across all size categories, while increases at private Ph.D. institutions were found in all size categories except Category 3 (decrease: 3.2%). Private master's institutions, while experiencing an overall increase of 1.7%, experienced increases of 1.1% in Category 1 and 8.4% in Category 3 institutions offset by decreases of 9.6% in Category 2 and 2.0% in Category 4 institutions.

Table 5 shows the number of graduate fellows (service required) for public and private institutions for 1974 and 1975. As can be seen from the table, public institutions experienced a nominal increase of 0.1%, while the increase at private institutions (5.3%) was higher. Increases were experienced in all size categories of private master's institutions except the largest, and in the larger size categories of private Ph.D. institutions. All size categories of public master's institutions showed an increase in the number of fellowships, and similar increases were experienced in the smaller size categories of public Ph.D. institutions. Yet, the decreases in the larger size categories of public Ph.D. institutions were sufficient to create a slight (0.3%) decrease for public Ph.D. institutions overall, a decrease which was offset by the 17.2% increase in public master's institutions resulting in the overall 0.1% increase for public institutions.

The number of master's degrees awarded (Table 6) increased slightly (3.1%) between 1974 and 1975, with the number of master's degrees awarded increasing at both public master's institutions (6.4%) and public Ph.D. institutions (2.5%) for an overall increase in the public sector of 3.2%. Similarly, the number of master's degrees awarded increased at both private master's institutions (2.8%) and at private Ph.D. institutions (2.6%) for an overall increase in the private sector of 2.6%. Public Ph.D. institutions experienced increases in all size categories, and other institutional types tended to experience decreases, when they occurred, in the smaller size categories. Thus, Category 1 institutions experienced decreases in private master's and public master's institutions, while Category 2 institutions experienced decreases in private master's and private Ph.D. institutions. In no case, however, were these decreases of sufficient magnitude to create an overall decrease for the institutional type.

For the second consecutive year, this year's survey showed an absolute decline (2.3%, in the number of Ph.D.s awarded. In the private sector, all size categories except Category 3 (increase: 3.2%) showed decreases with an overall decrease of 8.0%. In the public sector, a decrease in Category 3 institutions (3.8%) was sufficient to offset nominal increases in all other size categories and to create an absolute decrease of 0.1% for public institutions.

Finally, Table 8 indicates a breakdown of full- and part-time students for those institutions reporting. The table indicates that the proportion of part-time students has increased slightly at both public and private institutions since 1974, continuing a trend which has been observed for the past three years. In fact, with the exceptions of Category 3 private master's institutions and Category 1 public Ph.D. institutions—at which the proportion of part-time students dropped by 2% and 1% respectively—all size categories of institutions (public, private, master's and Ph.D.) showed either a constant or increasing proportion of part-time students since 1974. Viewed from another perspective, the proportion of part-time students at master's institutions rose from 80% in 1974 to 81% in 1975, while the proportion of part-time students at Ph.D. institutions rose from 51% in 1974 to 52% in 1975.

Conclusions

Once again, the first part of the CGS-GRE Board Survey of Graduate School Enrollment has met with great success in terms of the number of participating institutions and, accordingly, in terms of the value of the data which have been generated. Due to the continuing high institutional response rate and extreme representativeness of the sample, the results would appear to be highly valid in ascertaining short-term trends in American graduate education.

Several results are worthy of specific note. First, the survey shows both total graduate school enrollment and first-time graduate school enrollments contining to increase, with the largest proportional increases appearing at private master's institutions and the smallest proportional increases appearing at private Ph.D. institutions. Second, the number of applications received for graduate study has also increased, with the proportional increases relatively constant across institutional type. Third, the survey shows a continuing increase in the number of graduate assistantships awarded and, perhaps most significantly, an apparent reversal of the trend toward decreasing numbers of graduate fellowships. Finally, the number of master's degrees awarded continued to increase while the number of Ph.D.s awarded continued to decrease.

All in all, the results of this survey would appear to support the conclusion that, while graduate education on the whole continues to grow, that growth remains more limited in private Ph.D. institutions, despite the fact that applications to private Ph.D. institutions showed the greatest proportional increase among the four institutional types. The data also

suggest, although over-interpretation is dangerous and data concerning dollar amounts of awards are not available, that the trend toward decreasing support of graduate students may have bottomed out since the number of graduate fellowships in the public sector rose slightly between 1974 and 1975 and the number of graduate fellowships in the private sector—which has suffered more severe losses in the past three years—increased to a greater degree.

TABLE 1

Total Graduate School Enrollment by Type of Institution*

	Number	%**	1974	1975	% Change
Public—Master's Highest	57	86%	113,710	121,414	6.8% increase
Private—Master's Highest	23	88%	16,353	17,978	9.9% increase
Public—Ph.D. Highest	139	90%	427,090	452,192	5.9% increase
Private—Ph.D. Highest	73	83%	126,976	130,325	2.6% increase
Master's Highest	80	87%	130,063	139,392	7.2% increase
Ph.D. Highest	212	88%	554,066	582,517	5.1% increase
Public—Master's and Ph.D.	196	89%	540,800	573,606	6.1% increase
Private—Master's and Ph.D.	96	84%	143,329	148,303	3.5% increase
Total	292	87%***	684,129	721,909	5.5% increase

*For purposes of this survey, institutions were asked to include all students considered as registered in the graduate school, including education, engineering, social work, medical and business programs leading to MA/MS or Ph.D., Ed.D., or other doctorates.

**Percentage figures are the number of institutions responding to this question as a percentage of the number available in the total group. For example, 57 Public Master's Highest Degree institutions responded out of a possible 66 such institutions in the CGS membership for an 86% response rate for that group of institutions.

***Based on the computations described under Sample Description on page 3, the 292 institutions responding to this question represent 87% of the CGS institutions and accounted for approximately 85% of the 1974 total student enrollment at CGS institutions.

TABLE 2

First-Time Graduate Enrollment by Type of Institution

	Number	%	1974	1975	% Change
Public—Master's Highest	50	76%	26,352	27,149	3.0% increase
Private—Master's Highest	23	88%	5,045	5,475	8.5% increase
Public—Ph.D. Highest	133	86%	114,450	119,793	4.7% increase
Private—Ph.D. Highest	68	77%	36,296	36,156	0.4% decrease
Master's Highest	73	79%	31,397	32,624	3.9% increase
Ph.D. Highest	201	83%	150,746	155,949	3.5% increase
Public—Master's and Ph.D.	183	83%	140,802	146,942	4.4% increase
Private—Master's and Ph.D.	91	80%	41,341	41,631	0.7% increase
Total	274	82%*	182,183	188,573	3.5% increase

*Based on the computations described under Sample Description on page 3, the 274 institutions responding to this question represent 82% of the CGS institutions and accounted for approximately 82% of the 1974 total student enrollment at CGS institutions.

TABLE 3

Number of Applications for Graduate Study

	Number	%	1974	1975	% Change
Public—Master's Highest	43	65%	52,128	55,481	6.4% increase
Private—Master's Highest	18	69%	5,413	5,722	5.7% increase
Public—Ph.D. Highest	118	77%	342,614	363,596	6.1% increase
Private—Ph.D. Highest	64	73%	156,022	166,073	7.1% increase
Master's Highest	61	66%	57,541	61,203	6.4% increase
Ph.D. Highest	182	75%	497,636	529,669	6.4% increase
Public—Master's and Ph.D.	161	73%	394,742	419,077	6.2% increase
Private—Master's and Ph.D.	82	72%	160,435	171,795	7.1% increase
Total	243	73%*	555,177	590,872	6.4% increase

*Based on the computations described under Sample Description on page 3, the 243 institutions responding to this question represent 73% of the CGS institutions and accounted for approximately 73% of the 1974 total student enrollment at CGS institutions.

TABLE 4

Number of Graduate Assistants (Service Required)

	Number	%	1974	1975	% Change
Public—Master's Highest	56	85%	5,360	5,660	5.6% increase
Private—Master's Highest	22	85%	406	413	1.7% increase
Public—Ph.D. Highest	126	82%	81,415	84,925	4.3% increase
Private—Ph.D. Highest	74	84%	20,440	20,901	2.3% increase
Master's Highest	78	85%	5,766	6,073	5.3% increase
Ph.D. Highest	200	83%	101,855	105,826	3.9% increase
Public—Master's and Ph.D.	182	83%	86,775	90,585	4.4% increase
Private—Master's and Ph.D.	96	84%	20,846	21,314	2.2% increase
Total	278	83%*	107,621	111,899	4.0% increase

*Based on the computations described under Sample Description on page 3, the 278 institutions responding to this question represent 83% of the CGS institutions and accounted for approximately 81% of the 1974 total student enrollment at CGS institutions.

TABLE 5

Number of Graduate Fellows (Nonservice Required)

	Number	%	1974	1975	% Change
Public—	161	73%	20,922	20,937	0.1% increase
Private—	90	79%	15,514	16,330	5.3% increase
Total	251	75%*	36,436	37,267	2.3% increase

*Based on the computations described under Sample Description on page 3, the 251 institutions responding to this question represent 75% of the CGS institutions and accounted for approximately 73% of the 1974 total student enrollment at CGS institutions.

TABLE 6

Number of Master's Degrees

	Number	%	1973-74	1974-75	% Change
Public—	199	90%	127,263	131,353	3.2% increase
Private—	96	84%	36,044	36,973	2.6% increase
Total	295	88%*	163,307	168,326	3.1% increase

*Based on the computations described under Sample Description on page 3, the 295 institutions responding to this question represent 88% of the CGS institutions and accounted for approximately 88% of the 1974 total student enrollment at CGS institutions.

TABLE 7

Number of Ph.D. Degrees

	Number	%	1973-74	1974-75	% Change
Public—	142	92%	20,353	20,341	0.1% decrease
Private—	73	83%	8,025	7,382	8.0% decrease
Total	215	89%	28,378	27,723	2.3% decrease

TABLE 8

Full-time—Part-time Total Enrollment*

	1974						1975			
	Number	%	Full-time Number	%	Part-time Number	%	Full-time Number	%	Part-time Number	%
Public—	182	83%	207,612	43%	270,716	57%	214,164	42%	292,559	58%
Private—	89	78%	56,893	44%	73,096	56%	57,130	43%	76,438	57%
Total	271	81%**	264,505	43%	343,812	57%	271,294	42%	368,997	58%

*Institutions were directed to apply their own institutional definitions to "part-time" and "full-time."

**Based on the computations described under Sample Description on page 3, the 271 institutions responding to this question represent 81% of the CGS institutions and accounted for approximately 79% of the 1974 total student enrollment at CGS institutions.

The Constitution of the Council of Graduate Schools in the United States

1. *Name*

This organization shall be called the Council of Graduate Schools in the United States.

2. *Purpose*

The Council is established to provide graduate schools in the United States with a comprehensive and widely representative body through which to counsel and act together.

Its purpose is the improvement and advancement of graduate education. The purview of the Council includes all matters germane to this purpose. The Council shall act to examine needs, ascertain best practices and procedures, and render assistance as indicated; it may initiate research for the furthering of the purpose. It shall provide a forum for the consideration of problems and their solutions, and in meetings, conferences, and publications shall define needs and seek means of satisfying them in the best interests of graduate education throughout the country. In this function the Council may act in accordance with the needs of the times and particular situations to disseminate to the public, to institutions, to foundations, to the federal, state, and local governments, and other groups whose interest or support is deemed of concern, information relating to the needs of graduate education and the best manner of satisfying them.

In the analysis of graduate education, in the indication of desirable revision and further development, in the representation of needs and all other functions related to effecting its purpose, the Council not only shall be free to act as an initiating body, but it shall assume direct obligation for so doing.

3. *Membership*

Institutions applying for membership shall be considered in the light of the following criteria:

a. Applicants for membership must be accredited by the appropriate regional accrediting agency as a college or university approved for the offering of graduate work.

b. Applicants must have conferred at least thirty degrees of Master of Arts or Master of Science and/or professional Master's degrees in at least three professional fields or ten Doctor of Philosophy degrees, or appropriate combination, within the three-year period preceding application.

c. The degrees conferred must be adequately distributed over at least three distinct disciplines, such as but not limited to:

agriculture	electrical engineering	music
anthropology	English	pharmacology
astronomy	entomology	philosophy
bacteriology	fine arts	physics
biochemistry	French	physiology
botany	geography	political science
chemical engineering	geology	psychology
chemistry	German	Russian
civil engineering	history	sociology
classics	mathematics	Spanish
economics	mechanical engineering	zoology

The Committee on Membership shall consider all applications in the light of these criteria and make appropriate recommendations to the Executive Committee. The Executive Committee shall take final action on all applications for membership and shall report such action at each Annual Meeting.

The Executive Committee may invite and approve application by foreign institutions of good standing for affiliation with the Council if such institutions meet all criteria for membership except accreditation by an American regional accrediting agency. Such affiliates will be extended all the courtesies of membership except the privilege of voting.

4. *Voting Power*

In all activities of the Council, each member institution shall have one vote.

More than one representative of any institution may attend the meeting of the Council, but the member's vote shall be cast by the individual designated as the principal representative of the member by the chief administrative officer of the member institution.

5. *Officers and Executive Committee*

The officers of the Council and the Executive Committee shall be a Chairman, a Chairman-Elect, and the immediate Past Chairman, each serving for a term of one year. In the absence of the Chairman, the Chairman-Elect shall be the presiding officer of the Executive Committee and the Council.

There shall be an Executive Committee of twelve voting members, composed of the Chairman, the Chairman-Elect, the Past Chairman and nine members-at-large. Three members-at-large shall be elected by the Council at each Annual Meeting for terms of three years each, beginning immediately after the Annual Meeting.

The Chairman-Elect, chosen by the Executive Committee from its own past or present membership, shall serve in that capacity for one year. The following year, he will assume the office of Chairman, and the following year, the office of Past Chairman.

Each voting member of the Executive Committee must be the principal representative of a member of the Council and none may serve for two consecutive full terms.

If the Chairman is unable to continue in office, the Chairman-Elect shall succeed immediately to the chairmanship, and the Executive Committee shall choose a new Chairman-Elect.

Any vacancies occurring among the membership-at-large of the Executive Committee shall be filled by the Executive Committee until the next Annual Meeting, at which time the Council shall elect a replacement for the balance of the term.

6. *Executive Officers*

The chief executive officer of the Council shall be a President, who shall be a salaried officer, appointed by the Executive Committee and serving at its pleasure. The President shall serve as an *ex-officio* member of the Executive Committee without a vote.

7. *Duties and Powers of the Executive Committee*

In addition to the duties and powers vested in the Executive Committee elsewhere in this Constitution, the Executive Committee may, specifically: employ such staff and establish such offices as may seem necessary; incorporate; undertake itself, or through its agents, to raise funds for the Council and to accept and expend monies for the Council; take initiative and act for the Council in all matters including matters of policy and public statement except where limited by this Constitution or by actions of the Council.

8. *Committees*

In addition to the Executive Committee, there shall be (1) a Nominating Committee, (2) a Committee on Membership, whose members shall not be members of the Executive Committee, and, (3) such other standing committees as may be established by the Executive Committee.

Except for the Nominating Committee, all standing committees and *ad hoc* committees shall be appointed by the Chairman with the advice and consent of the Executive Committee.

The Nominating Committee shall consist of five members of whom three shall be elected each year by the Council at its annual meeting, and two shall be the members-at-large of the Executive Committee who are

completing their terms. The Chairman shall be elected by the Committee.

At least two weeks before each annual meeting of the Council, the Nominating Committee shall propose to the members of the Council one nominee for each member-at-large position of the Executive Committee to be filled and three nominees for members of the Nominating Committee. These nominations shall be made only after suggestions accompanied by supporting vitae have been solicited from the membership-at-large.

At the annual business meeting of the Council, additional nominees may be proposed from the floor. The election will then be held, and the nominees receiving the largest number of votes for the positions to be filled shall be declared elected.

9. *Meetings*

The Council shall hold an Annual Meeting at a time and place determined by the Executive Committee. The Council may meet at other times on call of the Executive Committee.

The Executive Committee shall be responsible for the agenda for meetings of the Council. Reports and proposals to be submitted for action by the Council shall be filed with the Executive Committee before they may be submitted for general discussion by the Council. No legitimate report or proposal may be blocked from presentation to the Council, but action on any proposal may not be taken until the Executive Committee has had an opportunity to make a recommendation.

In matters not provided for in this Constitution, parliamentary procedure shall be governed by *Robert's Rules of Order, Revised*.

10. *Limitation of Powers*

No act of the Council shall be held to control the policy or line of action of any member institution.

11. *Dues*

Membership dues shall be proposed by the Executive Committee and must be approved by the majority of the membership after due notice.

12. *Amendments*

Amendments to this Constitution may be proposed by the Executive Committee or by written petition of one-third of the members. However they originate, proposals for amendments shall be received by the Executive Committee and forwarded with recommendations to the members, in writing, at least ninety days before the meeting at which they

are to be voted upon or before formal submission to the members for a mail ballot. To be adopted, proposed amendments must receive the approval of a two-thirds majority of the members voting at the announced meeting or on the designated mail ballot.

13. *Bylaws*

Bylaws may be established by the Executive Committee at any regular or special meeting, subject to ratification by a simple majority vote of the Council at the next Annual Meeting.

Bylaws

1. In conformity with Article 6 of the Constitution, the President of the Council of Graduate Schools in the United States shall be paid an annual salary to be determined by the Executive Committee plus such perquisites as may be necessary for the proper conduct of the office and such travel as may be deemed essential. The President is authorized to employ such additional personnel as is, in his judgment, necessary for the proper conduct of the office, to establish bank accounts in the name of the Council of Graduate Schools in the United States, and to draw checks and invest monies against the Council's account or accounts, subject to an annual audit of the books of the Council by a Certified Public Accountant and approval by the Executive Committee.

2. The Riggs National Bank of Washington, D.C., is hereby designated a depositary for the funds of this association and the said bank is hereby authorized and directed to pay checks and other orders for the payment of money drawn in the name of this association when signed by the President and the said shall not be required in any case, to make inquiry respecting the applications of any instrument executed in virtue of this resolution, or of the proceeds therefrom, nor be under any obligation to see in the application of such instruments of proceeds.

3. In the event of the dissolution of the Council of Graduate Schools, all then existing assets of the Council shall be distributed in equal parts to the institutions which will at the time be members of the Council.

4. After January 1, 1969, the fiscal year of the Council of Graduate Schools in the United will correspond to the calendar year. (Prior to this date, the fiscal ran from April 1 through March 31.)

5. In the event of the death or disability of the President of the Council, the Chairman shall immediately call a meeting of the Executive Committee to select an Acting President, who shall assume the responsibilities of the President, as they are specified in Article 6 of the

Constitution and in Bylaws 1 and 2, until the appointment of a new President.

Procedural Policies

1. Annual meetings of the Council shall be held during or near the first week of December.

2. If a member resigns, it must reapply for admission in the normal way if it wishes to resume membership.

3. Membership or affiliation, with or without vote, of non-academic institutions, associations, or foundations is undesirable.

4. Institutions accepted to membership in any given year are required to pay prorated dues on a quarterly basis for that fiscal year.

The Council of Graduate Schools in the United States

Member Institutions

Abilene Christian College
Adelphi University
Air Force Institute of Technology
Alfred University
*American University
Andrews University
Appalachian State University
Arizona State University
Arkansas State University
Atlanta University
Auburn University
Ball State University
Baylor College of Medicine
Baylor University
*Boston College
Boston University
Bowling Green State University
Bradley University
*Brandeis University
Bridgewater State College
Brigham Young University
Brooklyn College of the City University of New York
*Brown University
*Bryn Mawr College
*California Institute of Technology
California State Polytechnic University, Pomona
California State University, Chico
California State University, Fresno
California State University, Fullerton
California State University, Hayward
California State University, Long Beach
California State University, Los Angeles
California State University, Northridge
California State University, Sacramento
*Carnegie-Mellon University
*Case Western Reserve University
*Catholic University of America
Central Michigan University
Central Missouri State University
Central Washington State College
Chicago State University
The City College of the City University of New York
The City University of New York
*Claremont Graduate School
*Clark University
Clarkson College of Technology
Clemson University
Cleveland State University
College of Saint Rose
College of William and Mary
Colorado School of Mines
Colorado State University
*Columbia University
Connecticut College
*Cornell University
Creighton University
Dartmouth College
DePaul University
Drake University
Drexel University
*Duke University
Duquesne University
East Carolina University
East Tennessee State University
East Texas State University
Eastern Illinois University
Eastern Kentucky University
Eastern Michigan University
Eastern Washingon State College
*Emory University
Emporia Kansas State College
Federal City College
Fisk University

Florida Atlantic University
*Florida State University
Florida Technological University
*Fordham University
Fort Hays Kansas State College
Framingham State College
George Mason University
George Peabody College
*George Washington University
*Georgetown University
Georgia Institute of Technology
Georgia Southern College
Georgia State University
Hahnemann Medical College and Hospital of Philadelphia
*Harvard University
Hebrew Union College
Hofstra University
Holy Names College
Howard University
Idaho State University
*Illinois Institute of Technology
Illinois State University
Immaculate Heart College
Indiana State University
*Indiana University of Pennsylvania
*Iowa State University
John Carroll University
*Johns Hopkins University
Kansas State College of Pittsburg
*Kansas State University
Kent State University
Lamar University
*Lehigh University
Loma Linda University
*Louisiana State University
Louisiana Tech University
Loyola Marymount University
*Loyola University of Chicago
Mankato State College
Marquette University
Marshall University
*Massachusetts Institute of Technology
Medical College of Georgia
Medical College of Pennsylvania
Medical College of Wisconsin
Medical University of South Carolina
Memphis State University
Miami University
*Michigan State University
Michigan Technological University
Middle Tennessee State University
Mississippi College
Mississippi State University
Montana State University
Montclair State College
Morgan State College
Murray State University
Naval Postgraduate School
New Jersey Institute of Technology
New Mexico Institute of Mining and Technology
New Mexico State University
*New School for Social Research
*New York University
Niagara University
North Carolina Central University
*North Carolina State University at Raleigh
North Dakota State University
North Texas State University
Northeast Louisiana University
Northeast Illinois University
Northeastern University
Northern Illinois University
Northwestern State University of Louisiana
*Northwestern University
Nova University
Oakland University
*Ohio State University
Ohio University
*Oklahoma State University
Old Dominion University
*Oregon State University
Pace University
Pan American University
*Pennsylvania State University
Pepperdine University
Polytechnic Institute of New York
Princeton University
Purdue University
Queens College of the City University of New York
Rensselear Polytechnic Institute

Rhode Island College
Rice University
Rockefeller University
Roosevelt University
Rutgers, The State University
St. Cloud State College
St. John's University
Saint Louis University
St. Mary's University
Sam Houston State University
Samford University
San Diego State University
San Francisco State University
San Jose State University
Sangamon State University
Seattle University
Seton Hall University
Shippensburg State College
South Dakota State University
Southern Illinois University at Carbondale
Southern Illinois University at Edwardsville
Southern University and A&M College
Southwest Texas State University
Stanford University
State University College at Fredonia
State University College at Geneseo
State University College at Oneonta
State University of New York at Albany
State University of New York at Binghamton
State University of New York at Buffalo
State University of New York—Downstate Medical Center
State University of New York at Stony Brook
Stephen F. Austin State University
Stetson University
Stevens Institute of Technology
*Syracuse University
*Temple University
Tennessee State University
Tennessee Technological University
*Texas A&M University
Texas Christian University
Texas Southern University
Texas Woman's University
Thomas Jefferson University
Trinity University
Tufts University
*Tulane University
Tuskegee Institute
United States International University
Utah State University
*Vanderbilt University
Villanova University
Virginia Commonwealth University
*Virginia Polytechnic Institute
Virginia State College
Wagner College
Wake Forest University
*Washington State University
*Wayne State University
Wesleyan University
West Chester State College
West Texas State University
West Virginia College of Graduate Studies
*West Virginia University
Western Carolina University
Western Illinois University
Western Kentucky University
Western Michigan University
Western State College of Colorado
Western Washington State College
Wichita State University
William Paterson College
Winthrop College
Worcester Polytechnic Institute
Wright State University
Xavier University
*Yale University
Yeshiva University
Youngstown State University
University of Akron
*University of Alabama
University of Alabama in

Birmingham
University of Alabama in Huntsville
*University of Arizona
University of Arkansas
University of Bridgeport
*University of California, Berkeley
University of California, Davis
University of California, Irvine
University of California, Los Angeles
University of California, Riverside
University of California, San Diego
University of California, Santa Barbara
*University of Chicago
*University of Cincinnati
*University of Colorado
University of Connecticut
University of Dayton
*University of Delaware
*University of Denver
University of Detroit
*University of Florida
University of Georgia
University of Hawaii
University of Houston
University of Idaho
University of Illinois at Chicago Circle
University of Illinois at the Medical Center
*University of Illinois at Urbana-Champaign
*University of Iowa
*University of Kansas
*University of Kentucky
University of Louisville
University of Lowell
University of Maine at Orono
*University of Maryland
University of Massachusetts
University of Miami
*University of Michigan
University of Minnesota
University of Mississippi
University of Missouri, Columbia
University of Missouri, Kansas City
University of Missouri, Rolla
University of Missouri, St. Louis
University of Montana
*University of Nebraska
University of Nebraska at Omaha
University of Nevada
University of Nevada, Las Vegas
University of New Hampshire
University of New Haven
University of New Mexico
University of New Orleans
*University of North Carolina, Chapel Hill
University of North Carolina, Charlotte
University of North Caroline, Greensboro
*University of North Dakota
University of Northern Colorado
University of Northern Iowa
*University of Notre Dame
*University of Oklahoma
*University of Oregon
University of the Pacific
*University of Pennsylvania
*University of Pittsburgh
University of Rhode Island
University of Richmond
*University of Rochester
University of San Francisco
University of Santa Clara
University of Scranton
University of South Alabama
University of South Carolina
University of South Dakota
University of South Florida
*University of Southern California
*University of Southern Mississippi
University of Tennessee, Chattanooga
University of Tennessee, Knoxville
University of Tennessee Center for the Health Sciences
University of Texas at Arlington
*University of Texas at Austin
University of Texas Health

Science Center, San Antonio
University of Texas Medical Branch, Galveston
University of Toledo
University of Tulsa
*University of Utah
University of Vermont
*University of Virginia
*University of Washington
*University of Wisconsin, Madison
University of Wisconsin, Milwaukee
University of Wisconsin, Oshkosh
*University of Wyoming

*Founding institutions